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A

COMPLETE BODY OF PLANTING and GARDENING.

CONTAINING

The NATURAL HISTORY, CULTURE, and MANAGEMENT of
DECIDUOUS and EVERGREEN FOREST-TREES;
With Practical Directions for RAISING and IMPROVING
WOODS, NURSERIES, SEMINARIES, and PLANTATIONS;

AND THE
Method of Propagating and Improving the various Kinds of DECIDUOUS and EVERGREEN SHRUBS and
TREES proper for ORNAMENT and SHADE.

ALSO
Inſtructions for LAYING-OUT and DISPOSING of
PLEASURE and FLOWER-GARDENS;
Including the Culture of Prize-Flowers, Perennials, Annuals, Biennials, &c.

LIKEWISE
PLAIN and FAMILIAR RULES for the MANAGEMENT of a
KITCHEN-GARDEN;
Comprehending the NEWEST and BEST METHODS of Raiſing all its different Productions.

TO WHICH IS ADDED,
The Manner of PLANTING and CULTIVATING
FRUIT-GARDENS and ORCHARDS.

THE WHOLE FORMING A
COMPLETE HISTORY of TIMBER-TREES,
Whether raiſed in FORESTS, PLANTATIONS, or NURSERIES;

AS WELL AS
A GENERAL SYSTEM of the PRESENT PRACTICE
OF THE
FLOWER, FRUIT, and KITCHEN GARDENS.

By the Rev. WILLIAM HANBURY, A. M.
Rector of CHURCH LANGTON, in LEICESTERSHIRE.

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COMPLETE BODY

OF

PLANTING and GARDENING.

BOOK IV.

PART I.

Of ANNUAL FLOWERS.

CHAP. I.

ACALYPHA.

NO Extraordinary beauty or ſingularity recommend the ſpecies of the *Acalypha* to the Gardener's notice. Variety and the pleaſure they will afford the Philoſopher in his obſervations, are the chief cauſes of their finding a place here; and as the culture of ſome of them is trifling after having once ſowed the ſeeds, let him procure ſome ſeeds of the

Species.

1. Virginian *Acalypha.*
2. Indian *Acalypha.*
3. American Cheſnut-leaved *Acalypha.*
4. Jamaica *Acalypha.*

Deſcription of Virginian

1. Virginian *Acalypha* will riſe with a branching ſtalk to about a foot in height. The leaves are of an oval lanceolate figure, and much reſemble thoſe of the Pellitory of the Wall; they are of the ſame kind of green, and grow alternately on long footſtalks. The flowers are male and female, on the ſame plant; the male flowers always grow above the females in ſmall cluſters, and neither of them have any petals; ſo that the appearance they make is but indifferent; they appear in July and Auguſt, and the ſeeds ripen in the autumn.

and Indian Acalypha

2. Indian *Acalypha*. This is a ſmall-growing plant, and is endowed with a ſtinging property, like our annual Stinging Nettle. The leaves are

of an oval figure, and much reſemble thoſe of the Annual Nettle in look as well as property. The flowers are produced like the former; they appear in Auguſt, and the ſeeds ripen in the autumn.

American Cheſnut-leaved.

3. American Cheſnut-leaved *Acalypha*. This will ariſe to the height of about three feet. Some of the leaves reſemble thoſe of the Cheſnut, which occaſions its being ſo diſtinguiſhed, though they will be of different figures and ſizes. Some will be very long and narrow; others broad, and much veined; they grow alternately on the ſtalks, and conſtitute the greateſt beauty of the plant, the flowers being deſtitute of petals, as the others.

and Jamaica Acalypha deſcribed.

4. Jamaica *Acalypha*. This is a very low plant. The leaves are oval, ſpear-ſhaped, and their edges are indented. The flowers are produced in ſpikes from the ſides and ends of the branches; they appear in July and Auguſt, and the ſeeds ripen in the autumn.

Method of propagation.

The firſt of theſe ſpecies is very hardy, and ſhould be ſown in the autumn, ſoon after the ſeeds are ripe; they will readily come up, and flower the ſucceeding ſummer, and afterwards ſcatter their ſeeds, and continue the ſucceſſion without further trouble. When the ſeeds are ſown late in the ſpring, they often do not come up before the ſpring following.

The other three ſorts are very tender. They muſt be raiſed in a good hotbed, and when they are of proper ſize for tranſplanting, muſt be removed into another; though it would be proper to plant them in pots, and plunge thoſe into the hotbed, or remove them into the ſtove, otherwiſe there will be great danger of their not flowering early enough to perfect their ſeeds in the autumn.

Another method of raiſing them is, to ſow the ſeeds in pots in the ſpring, then remove them into the ſhade, and ſet them in the green-houſe in winter; the next ſpring plunge them into a good hotbed, and they will come up and become ſtronger plants, and will flower earlier than thoſe raiſed the preceding way.

Titles.

1. The firſt ſpecies is titled, *Acalypha involucris femineis, cordatis inciſis, foliis ovato-lanceolatis petiolo longioribus.* Gronovius calls it, *Acalypha foliis ovato-lanceolatis, involucris femineis obtuſis.* It grows naturally in Virginia. Virginica

2. The ſecond ſpecies is termed, *Acalypha involucris femineis cordatis ſubcrenatis, foliis ovatis petiolo brevioribus.* Ray calls it, *Mercurialis Zeylanica tricoccos cum acetabulis.* It grows naturally in the Indies. Indica.

3. The third ſpecies is, *Acalypha involucris femineis integerrimis, foliis lanceolatis obtuſis.* Plumier calls it, *Ricinoides caſtaneæ folio.* It grows naturally in America. Australis.

4. The fourth ſpecies is, *Acalypha ſpicis femineis, involucris cordatis ſerratis, maſculis diſtinctis aphyllis, foliis lanceolatis ovatis.* Brown terms it, *Acalypha humitior, foliis cordatis crenatis, ſpicis mixtis alaribus et terminalibus.* It is a native of Jamaica. Virgata.

Claſs and order in the Linnæan ſyſtem. The characters.

Acalypha is of the claſs and order *Monoecia Monadelphia*; and the characters are,

I. Male Flowers growing in Cluſters above the Female.

1. CALYX is a perianthium compoſed of four roundiſh concave leaves, that are of about an equal ſize and ſhape.

2. COROLLA. There is none.

3. STAMINA are eight or ten, and ſometimes ſixteen ſhort filaments, which are joined together at the baſe, and have roundiſh antheræ.

II. Female Flowers.

1. CALYX is a permanent perianthium, compoſed of three ſmall, oval, concave, connivent leaves.

2. COROLLA. There is none.

3. PISTILLUM is a roundiſh germen, and three long-branching ſtyles, with ſimple ſtigmas.

4. PERICARPIUM is a roundiſh three-furrowed trilocular capſule.

5. SEMINA. The ſeeds are large and roundiſh; they are three in number, each of the cells containing a ſingle ſeed.

CHAP. II.

ADONIS, PHEASANT'S EYE.

OF this genus is that well-known Annual, called, *Flos Adonis*, or Pheaſant's Eye.

This ſpecies admits of two principal varieties; namely,

Varieties.

The Common Pheaſant's Eye, *Flos Adonis*, Red Maithes, or Red Morocco.

The Yellow-flowered *Adonis*.

Common Pheaſant's Eye deſcribed.

The Common Pheaſant's Eye is a native of England, growing wild amongſt corn in many parts of Kent. Culture makes two or three ſtill different ſorts of this variety; the flowers of one ſort are larger, and the leaves ſhorter; whilſt another ſhews a difference by flowers of a deeper or paler colour. The uſual height of this plant is about a foot; and the ſtalks, which are ſmooth, and a little channelled, are well ornamented with leaves and flowers. The leaves are of a pleaſant green colour, and finely divided into numerous ſmall ſegments. The ſtalk branches out into ſmaller, and thoſe again into others; each is compoſed of eight oval concave petals, of a deep-red colour, and the middle is filled up with numerous blackiſh ſtamina, each of which is terminated by a ſingle flower. Theſe finely-cut leaves garniſh the ſtalk at proper intervals all along; and theſe ſtalks being numerous, the whole plant has a buſhy look. The time of this plant's flowering is different, according to the ſowing of the ſeeds: And indeed from ſeeds ſown by the hand, and from others ſown naturally from the plants, I have ſeen this flower in blow almoſt in every month of the year.

Yellow Adonis deſcribed.

Yellow *Adonis.* This ſort is rather of taller growth than the other, and the leaves do not garniſh the ſtalk in ſuch plenty; which is rather a perfection; for the ſtalk of the other is over-leafed, in proportion to the ſize of the flower. The leaves of this ſort, however, are larger than the other; they are finely divided, and of a light-green colour. The flowers, which terminate the ſtalk and each of the ſide-branches, are of a pale-yellow colour; their blow will be various, according to their time of being ſown.

Propagation.

Theſe Annuals will not bear tranſplanting well; for after being removed, the flowers will always be ſmall, and the plant for the moſt part ſtocked, and appear unhealthful; ſo that the ſeeds ſhould be ſown in patches where the plants are wanted. The beſt time is to ſow them in the autumn, as ſoon as they are ripe, though they may be ſown at all times; but if the work is deferred until the ſpring, they often will not come up until the ſpring after. The manner of ſowing is only ſcattering about a few ſeeds, and raking them in with a hand-rake; and having placed a ſtick for a direction, the buſineſs is done. If too many come up, they ſhould be thinned to three or four plants, and theſe will be larger, and produce larger and fairer flowers.

After theſe plants are once obtained, they will call for no other culture or trouble; for as the ſeeds ripen, they will ſcatter themſelves, and come up much better than when ſowed by art. They will occupy the ground around, and then the hoe is to be uſed to thin them to any deſired number. The young plants will ſtand the winter admirably well, and they will flower early in June following, which will alſo produce ſeeds, that will ſow themſelves in the like manner; and thus, without any future trouble, theſe flowers will keep to themſelves a good ſtock in ſucceſſion.

Titles.
Autumnalis.

This ſpecies is titled, *Adonis floribus octopetalis, fructibus ſubcylindricis.* In the *Hortus Cliffort.* it is termed, *Adonis radice annuâ.* Cammerarius calls it, *Adonis flore pallido*; Gerard, *Flos Adonis flore rubro*; and Caſpar Bauhine, *Adonis ſylveſtris, flore luteo, foliis longioribus.* It grows common among corn in England, and moſt of the ſouthern countries of Europe.

* * *

CHAP. III.

ÆGILOPS.

Of this genus are two common annuals of the graſs kind, called,

Species.

1. Oval Hard-headed Graſs.
2. Sea Hard Graſs.

Oval Hard-headed Graſs deſcribed.

1. Oval Hard-headed Graſs. The root is compoſed of a few ſhort white fibres. The ſtalk is round, hollow, jointed, and about a foot and a half high. The leaves are narrow, graſſy, grow ſingly at the joints, and are hairy on the edges. The flowers come out from the tops of the ſtalks in hard, oval, ariſtated heads or ſpikes; they are of a whitiſh colour, appear in June, July, and Auguſt, and are ſucceeded by large oblong ſeeds, like barley, but flatter.

Varieties.

The varieties of this ſpecies are,
The Long-ſpiked,
The Round-ſpiked,
The Large Thick-ſpiked.

All theſe varieties will ariſe promiſcuouſly from the ſame ſeed, though they have been diſtinguiſhed with ſeparate titles, as diſtinct ſpecies, by old botaniſts.

Sea Hard Graſs deſcribed.

2. Sea Hard Graſs. There are ſeveral varieties of this ſpecies, differing in one reſpect or other. The ſtalks are hollow, and have two or three joints near the bottom. The leaves are narrow, graſſy, and grow ſingly at the joints. The flowers terminate the ſtalks in hard, narrow, taper, awl-ſhaped, incurved ſpikes. Their valves are large, and each cup contains one flower; they have no ariſtæ, and are of a whitiſh-green colour; they appear in July and Auguſt, and the ſeeds ripen ſoon after.

Culture.

Whoever is deſirous of having a plant or two of theſe ſpecies to be ready for obſervation, may ſow the ſeeds in the ſpring, when the farmers ſow barley, and the plants will come up, flower, and perfect their ſeeds, about the ſame time as that uſeful grain.

Titles.
Ovata.

1. Oval Hard-headed Graſs is titled, *Ægilops ſpicâ ariſtatâ: calycibus omnibus triariſtatis.* In the *Hortus Upſal.* it is termed, *Ægilops ſpicâ ovatâ ariſtis breviore.* Van Royen calls it, *Ægilops*; Caſpar Bauhine, *Feſtuca altera, capitulis duris*; and Scheuchzer, *Gramen ſpicatum, durioribus & craſſioribus locuſtis, ſpicâ brevi.* It grows naturally in moſt of the ſouthern countries of Europe.

Incurvata.

2. Sea Hard Graſs is, *Ægilops ſpicâ ſubulatâ muticâ lævi incurvatâ, calycibus unifloris.* Van Royen calls it, *Nardus ſpicâ ſubulatâ diſtichâ*; Moriſon, *Gramen loliaceum maritimum, ſpicis articulatis*; Tournefort, *Gramen loliaceum, ſpicis articuloſis erectis*; Caſpar Bauhine, *Gramen loliaceum minus, ſpicâ ſimplici*; and Boccone, *Gramen myuros erectum minimum arundinaceum.* It grows naturally on the ſea-ſhores in England, Italy, and Spain.

Claſs and order in the Linnæan Syſtem.

Ægilops is of the claſs and order *Polygamia Monoecia*; and the characters are,

I. Hermaphrodite Florets on the Sides.

The characters.

1. Calyx is a large glume compoſed of two oval, truncated, ſtriated valves, containing three flowers.

2. Corolla is compoſed of two valves. The exterior one is oval, and terminated by a double or triple ariſta or awn; the interior is ſpear-ſhaped, erect, beardleſs, and inflexed longitudinally on the edges.

3. Stamina are three capillary filaments, with oblong antheræ.

4. Pistillum conſiſts of a turbinated germen, and two reflexed ſtyles, with hairy ſtigmas.

5. Pericarpium. There is none. The interior valve of the corolla grows to the ſeed, and ſerves the office of a pericarpium.

6. Semen. The ſeed is oblong.

II. Male Flowers in the Middle.

1. Calyx is ſimilar to the former.

2. Corolla is the ſame.

3. Stamina are the ſame.

4. Pistillum is the ſame as in the hermaphrodites, but unfruitful.

CHAP. IV.

ÆTHUSA, LESSER HEMLOCK, or FOOL's PARSLEY.

OF this genus there is only one ſpecies, called, Leſſer Hemlock, or Fool's Parſley.

This plant deſcribed.

The root is tough, white, and ſtrikes downright into the ground in the manner of Parſley. The leaves are compoſed of a multitude of oval, pointed, ſerrated folioles, ſomewhat reſembling thoſe of common Chervil or Parſley, and are of a ſtrong diſagreeable odour. The ſtalk is round, ſtriated, hollow, jointed, often reddiſh towards the ſun, and two or three feet high. The flowers are produced from the tops and ſides of the ſtalk in umbels; they are of a white colour, appear in July, Auguſt, and September, and the ſeeds ripen in the autumn.

This plant riſes as a weed in gardens, and many cultivated places, and is deſtroyed by a conſtant repetition of hoeing down before the plants have flowered, and the ſeeds are ſcattered.

Titles:

Cynapium

There being no other ſpecies of this genus, it is ſtiled ſimply, *Æthuſa.* Caſpar Bauhine calls it, *Cicuta minor, petroſelino ſimilis*; Lobel, *Cicutaria fatua*; Gerard, *Cicutaria tenuifolia*; and Parkinſon, *Cicuta minor ſeu fatua.* It is common in England, and moſt countries of Europe.

Claſs and order in the Linnæan ſyſtem. The characters.

Æthuſa is of the claſs and order *Pentandria Digynia*; and the characters are,

1. Calyx. The general umbel is patent, and compoſed of ſeveral rays; the interior ones being gradually ſhorter, and the middle ones are ſtill ſhorter. The partial umbel is ſmall and patent; and there is no general involucrum. The partial involucrum is dimidiated, placed externally, and compoſed of three or five very long, narrow, pendulent leaves. The perianthium is ſcarce viſible.

2. Corolla. The general flower is nearly uniform, and the florets have each five inflexed, heart-ſhaped, unequal petals.

3. Stamina are five ſimple filaments, with roundiſh antheræ.

3. Pistillum conſiſts of a germen ſituated below the calyx, and two reflexed ſtyles, with obtuſe ſtigmas.

5. Pericarpium. There is none. The fruit is oval, roundiſh, ſtriated, and divided into two parts.

6. Semina. The ſeeds are two, roundiſh, ſtriated, and a third part plane.

CHAP. V.

AGERATUM, BASTARD HEMP AGRIMONY.

OF this genus is the ſhort-lived ſpecies, called, Annual Baſtard Hemp Agrimony.

The plant deſcribed.

The ſtalk is weak, branching, hairy, and about a foot high. The leaves are oval, hairy, and much reſemble thoſe of the Dead Nettle. The flowers come out from the ends of the branches on ſlender footſtalks; they are of a yellow colour, appear in July and Auguſt, and the ſeeds ripen in the autumn.

Varieties.

There is a variety of this ſpecies with blue, and another with white flowers.

Method of propagation.

They are propagated by ſowing the ſeeds in a well-cultivated border. Here they will come up, flower, and ſcatter their ſeeds; which ſeeds will grow, become good plants, and maintain the ſucceſſion without further trouble. But theſe plants will often flower ſo late in the autumn, that they are not always ſucceeded by ripe ſeeds. In order, therefore, to keep up the ſtock, let a few ſeeds of each ſort be ſown early in a hotbed, have proper watering, and all neceſſary care to keep them from growing weak; harden them by degrees, and about the end of May plant them out where they are to flower. A moiſt day ſhould be made choice of, if poſſible; for want of which a good watering ſhould be given them, and ſomething ſet to form a ſhade. A ball of earth ſhould be taken out of the bed with each root, if poſſible; and with ſuch careful management they will flower in July, and continue to exhibit their bloom for many months, even until the ſetting-in of the froſts. Let the ſeeds from the earlieſt flowers be gathered for ſowing in the hotbed in the ſpring following, and they will afford you plenty enough for a late blow, from the ſeeds that will naturally be ſcattered thereon. And if at any time the ſoil where theſe plants have growed be uſed for a hotbed, they will come up in ſuch plenty as to become as troubleſome as weeds to the other plants the beds were deſigned for.

Titles.

This ſpecies is titled, *Ageratum foliis ovatis, caule piloſo*. Herman calls it, *Eupatorium humile Africanum, ſenecionis facie, folio lamii*. It grows naturally in America.

Conyzo-ides.

* * *

CHAP. VI.

AGROSTEMMA, CAMPION, or WILD *LYCHNIS*.

THAT well-known biennial called Roſe Campion is a ſpecies of this genus; but as it may with all its varieties be made by art to continue for many years, it is ſtationed in the firſt volume, among the Perennials. The ſtill ſhorter-lived ſpecies of this genus are,

Species.

1. Corn Campion, or Common Cockle.
2. Smooth Cockle.

Corn Campion deſcribed.

1. Corn Campion, or Common Cockle. The ſtalk is upright, ſlender, round, hairy, of a whitiſh-green colour, and about a yard high. The leaves are long, narrow, of a whitiſh-green colour, hairy, grow oppoſite by pairs, and ſurround the ſtalk with their baſe. The flowers come out from the tops of the ſtalks; they are large, of a purpliſh-red colour, and very beautiful; they appear in June, and the ſeeds ripen with the corn in Auguſt.

Variety of it.

There is a variety of this ſpecies with white flowers.

2. Smooth Cockle. The ſtalk is upright, round, ſmooth, of a pale-green colour, and riſes to about a foot and a half high. The leaves are long, narrow, of a pale-green colour, hairy, and grow oppoſite by pairs on the ſtalks. The flowers are large and beautiful; the petals are emarginated, coronated, of a pale though elegant red colour, will be in blow in June, and the ſeeds ripen in Auguſt and September.

This plant grows among corn in other countries.

Culture.

They are both propagated by ſowing the ſeeds, the beſt time for which is the autumn, ſoon after they are ripe; the plants will then flower early the ſummer following, and will be larger than if the ſeeds are kept until the ſpring.

Titles. Githago. 1. Corn Campion, or Cockle, is titled, *Agroſtemma hirſuta, calycibus corollam æquantibus, petalis integris nudis.* In the *Hortus Cliffort.* it is termed ſimply, *Agroſtemma.* Caſpar Bauhine calls it, *Lychnis ſegetum major*; John Bauhine, *Pſeudo-melanthium*; Fuchſius, *Lolium*; and Parkinſon, *Lychnoides ſegetum ſive nigellaſtrum.* It grows naturally in corn-fields in England, and moſt countries of Europe.

2. Smooth Cockle is, *Agroſtemma glabra, foliis lineari-lanceolatis, petalis emarginatis coronatis.* Colirosa. Moriſon calls it, *Lychnis ſegetum, nigellaſtrum minus glabrum dicta, flore eleganter rubello*; Boccone, *Lychnis foliis glabris, calyce duriore*; and Ray, *Pſeudo-melianthium glabrum Siculum.* It grows naturally in Sicily and the Eaſt.

CHAP. VII.

AGROSTIS.

OF this ſpecies is an elegant graſs, called, Silky Bent Graſs.

The plant deſcribed. The root is compoſed of numerous, long, whitiſh, crooked fibres. The ſtalks are round, hollow, jointed, and three or four feet high. The leaves are long, narrow, of a pale-green colour, grow ſingly at the joints, and ſurround the ſtalk with their baſe a great way up. The flowers come out in long reed-like panicles from the tops of the ſtalks; they are very gloſſy, and the outer petal is remarkable for its fine, long, ſtraight ariſta or awn; their colour is ſometimes yellowiſh, ſometimes purple, but moſtly brown; they will be in blow in July, and the ſeeds ripen in Auguſt.

Method of propagation. This plant grows common in our corn-fields; and whoever is deſirous of propagating it in his garden, may ſow a few ſeeds in the autumn, ſoon after they are ripe, or in the ſpring. When the plants come up, the redundant quantity ſhould be hoed down as weeds, leaving a ſufficient number only (which need not be very great) to be ready for obſervation.

Titles. Spica Venti. This ſpecies is titled, *Agroſtis petalo exteriore exſerente ariſtam rectam ſtrictam longiſſimam.* Caſpar Bauhine calls it, *Gramen ſegetum paniculâ arundinaceâ*; John Bauhine, *Gramen agrorum*; Gerard, *Gramen arundinaceum*; and Parkinſon, *Gramen agrorum venti ſpicâ.* It grows common among the corn in England, and moſt countries of Europe.

CHAP. VIII.

AIRA.

TO the above kind of elegant graſs, ſucceed others of ſhort duration, comprehended in the genus *Aira*, called,

Species.

1. Early Hair-Graſs.
2. Silver Hair-Graſs.

Early 1. Early Hair-Graſs. The leaves are narrow, and hairy. The ſtalks are ſlender, jointed, hollow, and ſupport a ſhort looſe ſpike of flowers at the top; theſe are ariſtated at the baſe, are of a whitiſh colour, appear in May and June, and the ſeeds ripen in July and Auguſt.

and Silver Hair-Graſs deſcribed. 2. Silver Hair-Graſs. The leaves are awl-ſhaped, and hairy. The ſtalks are ſmooth, ſlender, jointed, and ſupport a panicle of flowers at the top; theſe are thinly diſpoſed in the panicle, and are of a ſilvery-white colour, having an elegant tinge of purple; they will be in blow in June and July, and the ſeeds ripen in Auguſt.

Culture. The ſeeds of theſe may be ſown in the ſpring; but if they are ſown in the autumn, ſoon after they are ripe, they will flower earlier the ſummer following.

Titles. Præcox. 1. Early Hair-Graſs is titled, *Aira foliis ſetaceis: vaginis angulatis, floribus paniculato-ſpicatis, floſculis baſi ariſtatis.* Scheuchzer calls it, *Gramen minimum, ſpicâ brevi habitiore, noſtrum*; and Ray, *Gramen parvum præcox, paniculâ laxâ caneſcente.* It grows naturally in ſterile ſandy places in England, and moſt of the ſouthern countries of Europe.

Caryophyllea. 2. Silver Hair-Graſs is, *Aira foliis ſetaceis, paniculâ divaricatâ, floribus ariſtatis diſtantibus.* Van

Royen calls it, *Aira foliis ſubulatis, ariſtis à baſi floſculorum tortilibus, floſculo altero pedunculato*; Barrelier, *Gramen phalaroides, ſparſâ paniculâ, minimum anguſtifolium*; Ray, *Gramen paniculatum, locuſtis purpureo-argenteis, annuum*; Moriſon, *Gramen paniculatum, purpureo-argenteum, locuſtis parvis, annuum*; Magnol, *Gramen paniculatum minimum molle*; and Caſpar Bauhine, *Caryophyllus arvenſis glaber minimus*. It grows every-where in our ſandy gravelly ſoils, and is very common in France and Germany.

CHAP. IX.

AIZOON.

THERE are three ſpecies of the *Aizoon*, which with us die in the autumn, at the approach of hard weather; viz.

Species.

1. Canary *Aizoon*.
2. Spaniſh *Aizoon*.
3. Paniculated *Aizoon*.

Canary,

1. Canary *Aizoon*. The ſtalks are trailing, and about a foot long. The leaves are wedge-ſhaped, oval, of a thickiſh ſubſtance, and a bluiſh-green colour. The flowers are produced from the wings of the leaves, ſitting cloſe, having no footſtalks; they appear in July and Auguſt, and the ſeeds ripen in September.

Spaniſh, and Paniculated Aizoon deſcribed.

2. Spaniſh *Aizoon*. The ſtalks are weak, hairy, branching, and about a foot long. The leaves are ſpear-ſhaped, long, and hairy. The flowers come out from the ſides of the branches, ſitting cloſe; they appear in July and Auguſt, and the ſeeds ripen in the autumn.

3. Paniculated *Aizoon*. The ſtalks are tender, branching, and about a foot and a half high. The leaves are ſpear-ſhaped, and hairy underneath. The flowers are produced in panicles from the tops of the ſtalks; they appear in Auguſt, and the ſeeds ripen in the autumn.

Method of propagating them.

The beſt way of raiſing theſe plants is by ſowing their ſeeds in ſmall pots filled with common garden-mould, mixed with a third part of ſand, and at leaſt half the quantity of the whole of lime rubbiſh. The pots ſhould be plunged in a moderate hotbed, and the plants will ſoon come up; they muſt be hardened by degrees to the air, and afterwards may be turned out of the pots into the open ground, with all the earth at the roots, in ſome ſhady ſituation, where the ſoil is bad; or if it is not naturally ſo, any hungry gravelly ſoil may be brought for the purpoſe.

They may be alſo raiſed on a hotbed; and when the plants are of ſufficient ſtrength, they may be taken up with a ball of earth to each root, and planted out in the ſame way. Thus they will flower in Auguſt, or earlier, and ripen their ſeeds. By this means a ſucceſſion may be continued; and for this purpoſe it is that planting them in a poor hungry ſoil is recommended; otherwiſe, if planted in a rich ſoil, the plants will be much more luxuriant, but they will flower late, and ſometimes not at all, and conſequently no ſeeds from ſuch plants may be expected.

Titles.

1. The Canary *Aizoon* is termed, *Aizoon foliis cuneiformi-ovatis, floribus ſeſſilibus*. Niſſol calls it, *Ficoides procumbens, portulacæ folio*; and Plukenet, *Kali Aizoides Canarienſis procumbens*. It grows common in the Canary iſlands. Canariensis.

2. Spaniſh *Aizoon* is called, *Aizoon foliis lanceolatis, floribus ſeſſilibus*. Dillenius calls it, *Ficoidea Hiſpanica annua, folio longiore*. It grows naturally in Spain and Africa. Hispanica

3. Paniculated *Aizoon* is called, *Aizoon foliis lanceolatis floribus paniculatis*. Van Royen calls it, *Aizoon foliis lanceolatis ſubtus hirſutis*. It grows naturally in Africa. Paniculata.

Claſs and order in the Linnæan ſyſtem. The characters.

Aizoon is of the claſs and order *Icoſandria Pentagynia*; and the characters are,

1. CALYX is a monophyllous perianthium, divided at the top into five ſpear-ſhaped, permanent ſegments.

2. COROLLA. There is none.

3. STAMINA are numerous capillary filaments inſerted in the boſom of the calyx, having ſimple antheræ.

4. PISTILLUM conſiſts of a five-cornered germen, and five ſimple ſtyles, with ſimple ſtigmas.

5. PERICARPIUM is a ventricoſe, retuſed, five-cornered capſule, containing five cells.

6. SEMINA. The ſeeds are numerous and roundiſh.

CHAP. X.

ALOPECURUS, FOX-TAIL GRASS.

Species.

OF this genus are two annual graſſes, called,
1. Great Annual Fox-tail Graſs.
2. Small Annual Fox-tail Graſs.

Deſcription of Great

1. Great Annual Fox-tail Graſs. The ſtalks are upright, rigid, round, jointed, and about two feet high. The leaves are ſtiff, long, narrow, pointed, grow ſingly at the joints, and ſheath the ſtalk with their baſe a good way up. The flowers come out in ſpikes that are four or five inches long; they are ariſtated, their glumes are rough, and of a browniſh colour; they appear in June and July, and the ſeeds ripen in Auguſt.

and Small Annual Fox-tail Graſs.

2. Small Annual Fox-tail Graſs. This is a ſmall graſs, not much unlike the former, but much ſmaller. The flowers terminate the ſtalks in kind of ſpikes; they are ariſtated, and the glumes are downy and hairy at the points, ſoft to the touch, and of a greeniſh colour; they appear in June and July, and the ſeeds ripen in July and Auguſt.

Variety.

There is a variety of this ſpecies with purpliſh flowers.

Culture.

The ſeeds may be ſown in the autumn, ſoon after they are ripe, or in the ſpring; though the former method is preferable, in order to have the flower early the ſummer following.

1. Great Annual Fox-tail Graſs is titled, *Alopecurus paniculâ ſubſpicatâ, glumis ſcabris, corollis ariſtatis.* Sauvages calls it, *Alopecurus paniculâ villoſâ oblongâ folio involutâ*; Barrelier, *Gramen alopecurum majus, ſpicâ vireſcente divulſâ, pilis longioribus*; Caſpar Bauhine, *Gramen alopecuroides Anglo-britannicum maximum*; and Moriſon, *Alopecurus altera maxima Anglica paludoſa.* It grows naturally in moiſt ſalt places in England, and the South of France.

Monspe-=liensis.

2. Small Annual Fox-tail Graſs is, *Alopecurus paniculâ ſubſpicatâ, glumis villoſis, corollis ariſtatis.* In the former edition of the *Species Plantarum* it is termed, *Cynoſurus paniceus.* Caſpar Bauhine calls it, *Gramen alopecurum minus, ſpicâ longiore*; and Barrelier, *Gramen alopecurum minus, ſpicâ vireſcente divulſâ.* It grows naturally in dry cultivated places in England, and moſt parts of Europe.

Paniceus.

CHAP. XI.

ALYSSUM, MADWORT.

THE ſpecies of the *Alyſſum* which ought more particularly to come in this place are uſually called,

Species.

1. The Sinuated *Alyſſon.*
2. The Entire-leaved *Alyſſon.*
3. The *Alyſſon* of Dioſcorides.
4. The Annual *Alyſſon.*
5. Auſtrian *Alyſſon.*
6. Field *Alyſſon.*

The firſt three ſorts ſhould be conſidered as Biennials, for they uſually laſt about two years; but if the ſituation be dry, rubbiſhy, and warm, they ſometimes will continue longer, and without ſuch a ſituation they often will not ſurvive the firſt winter.

Sinuated,

1. Sinuated *Alyſſon* is a low ſpreading plant, and has a tender, thick, fleſhy, branching ſtalk. The leaves are ſpear-ſhaped, indented on the edges, downy, grow alternately, and moſt of them have a tendency to double backward. The flowers are of a bright-yellow colour; each is compoſed of four petals; and they grow in cluſters at the ends of the branches, and are ſucceeded by inflated ſeed-veſſels.

Entire-leaved Alyſſon,

2. The Entire-leaved *Alyſſon.* The ſtalk is erect, herbaceous, and branching. The leaves are ſpear-ſhaped, very hoary, and their edges are entire. The flowers are produced in ſmall cluſters at the ends of the branches, and will be ſucceeded by inflated ſeed-veſſels, like the former.

and Alyſſon of Dioſcorides deſcribed.

3. *Alyſſon* of Dioſcorides has an erect herbaceous ſtalk. The leaves are hoary, of an oblong figure, and are placed alternately. The flowers grow from the wings of the ſtalks; they ſit cloſe, and are ſucceeded by oval compreſſed ſeed-veſſels.

I never knew this plant to continue longer than two years; whereas the others will ſometimes remain three years in a warm, dry, rubbiſhy ſoil.

Method of propagation.

In this kind of ſoil and ſituation ſow the ſeeds in July, and they will be good plants by the autumn to bear the winter. If they are ſown earlier, they will be too luxuriant to ſurvive the winter; if they are ſown later, many of the plants will be too weak for that purpoſe. Plants thus raiſed may be expected to flower the June or July following, and to produce good ſeeds in the autumn.

Annual Alyſſon deſcribed.

4. Annual *Alyſſon* is a ſmall plant, the branches of which are many, diffuſed, and lie upon the ground. The leaves are ſpear-ſhaped, of a lanceolate figure, though very narrow, and downy. The flowers are produced in ſmall bunches in July and Auguſt, and will be ſucceeded by compreſſed pods, full of ſeeds.

Culture.

This, being an annual, ſhould be ſown early in the ſpring, in a border of light, rich earth; or, if it be afforded the care and management of a hotbed, it may be made to flower earlier in the ſeaſon.

Auſtrian Alyſſon deſcribed.

5. Auſtrian *Alyſſon*. The ſtalks of this ſpecies are ſlender, herbaceous, erect, and grow to about ſix inches high. The leaves are ſmall, oblong, hoary, and grow alternately, without any footſtalks. The flowers come out in long ſpikes from the ends of the ſtalks, are of a yellow colour, and are ſucceeded by roundiſh, flat pods, containing the ſeeds.

Culture.

It is propagated by ſowing of the ſeeds, like the former; and after the plants have once flowered in a garden, they will ſcatter their ſeeds, which will come up and maintain the ſucceſſion without any trouble, except thinning, and hoeing them down when they appear in improper places.

Field Alyſſon deſcribed.

6. Field *Alyſſon*. The ſtalks are weak, ſlender, and herbaceous. The leaves are ſpear-ſhaped, oval, narrow at their baſe, rounded at the extremity, and hoary underneath. The flowers grow in long ſpikes from the ends of the ſtalks, are of a yellow colour, and are ſucceeded by oval, ſlightly-compreſſed, downy pods, containing the ſeeds.

Culture.

It is propagated like the former.

Titles.

1. The Sinuated-leaved *Alyſſon* is entitled, *Alyſſum caule herbaceo, foliis lanceolatis dentatis, ſiliculis inflatis.* Tournefort terms it, *Alyſſoides incanum, foliis ſinuatis.* It grows naturally in Spain.

Sinuatum.

2. The Entire-leaved *Alyſſon* is called, *Alyſſum caule herbaceo erecto, foliis incanis lanceolatis integerrimis, ſiliculis inflatis.* Tournefort ſtiles it, *Alyſſoides fruticoſum Creticum, leucoji folio incano.* It grows naturally in Crete.

Creticum.

3. *Alyſſon* of Dioſcorides is, *Alyſſum caule erecto herbacco, ſiliculis ſeſſilibus ovalibus compreſſo-planis, petalis acuminatis.* This is the *Leucojum alyſſoides clypeatum majus* of Caſpar Bauhine. It grows common in moſt of the ſouthern parts of Europe.

Clypeatum.

4. Small Annual *Alyſſon* is titled, *Alyſſum caulibus herbaceis diffuſis, foliis linearibus tomentoſis, ſiliculis compreſſis.* This is the *Lunaria annua minima Hiſpanica, folio leucoji maritimi*, of Boerhaave. It grows naturally in Spain.

Minimum.

5. Auſtrian *Alyſſon* is titled, *Alyſſum caulibus herbaceis, ſtaminibus omnibus dentatis, calycibus perſiſtentibus.* In the *Hortus Cliffort.* it is termed, *Clypeola ſiliculis bilocularibus tetraſpermis.* Caſpar Bauhine calls it, *Thlaſpi alyſſon dictum campeſtre majus*; Cluſius, *Alyſſon minimum*; and Cammerarius, *Alyſſon.* It grows naturally in Auſtria, Germany, and many parts of France.

Calycinum.

6. Field *Alyſſon* is, *Alyſſum caule herbaceo, ſtaminibus ſtipatis pariſetarum, calycibus deciduis.* Sauvages calls it, *Clypeola annua, ſiliculis bilocularibus diſpermis, calycibus caducis*; Tournefort, *Alyſſon incanum, ſerpylli folio, fructu nudo*; Magnol, *Thlaſpi alyſſon dictum minus, capſulis majoribus rotundis non ſolitariis*; and Caſpar Bauhine, *Thlaſpi montanum incanum luteum, ſerpylli folio, majus.* It grows naturally in Gaul.

Campeſtre.

CHAP. XII.

AMARANTHUS, AMARANTH, or FLOWER-GENTLE.

Introduction.

THIS celebrated genus of plants affords more varieties, and but fewer real ſpecies, than has generally been imagined. Their culture is different in the different ſorts; and the eſteem they are in varies according to people's taſte; ſome admiring almoſt all the ſorts, whilſt others will allow but very few to be worthy of culture. The beſt, and which ſeem to be moſt univerſally admired, are,

Species.

1. The *Amaranthus Bicolor.*
2. The *Amaranthus Tricolor.*

Before I mention any of the other ſpecies, I ſhall proceed to treat of theſe diſtinctly, as their culture, of all the others, requires the moſt attention and care to bring them to perfection; and has occaſioned much contention and emulation among Gardeners, in endeavouring to outvie and excel each other in the exerciſe of their art, by exhibiting the beſt and moſt perfect ſhow of theſe plants.

Deſcription of the Amaranthus Bicolor

1. The *Amaranthus Bicolor* is of later ſtanding in our gardens than the *Tricolor.* The height and ſize it will grow to is according to the ſkill of the artiſt in its management. It is naturally a fine-growing plant, forms itſelf into a kind of pyramid, and, when in its perfect ſtate, hath very large and fine leaves. Theſe are poſſeſſed of two colours; which occaſions this plant being termed *Bicolor.* The colours are a bright crimſon and a kind of purple, which are moſt agreeably blended together, and in ſuch a manner that one colour ſets off and heightens the luſtre of the other; and both together conſtitute a leaf of amazing ſingularity and beauty.

and Amaranthus Tricolor.

2. *Amaranthus Tricolor* is of the ſame ſize, the ſame kind of growth, and will form itſelf into

the like kind of beautiful pyramidical head The leaves are naturally large, and conſiſt of three diſtinct colours; which occaſions this ſpecies being termed *Tricolor*. Green, yellow, and red, are the colours which paint theſe leaves; they are mixed in the moſt agreeable manner, and conſtitute a beauty enchantingly ſtriking and fine: For what can be more beautiful than ſuch variegated leaves ornamenting a plant of ſix feet in height (for it will grow to that height with proper management); and theſe not ſmall, and irregularly placed, but very large in proportion to the ſize of the plant, and ornamenting the branches their whole length; and in that beautiful figure, too, which theſe plants naturally form themſelves into by their pyramidical growth! But theſe plants are exceedingly well known. Many a Gardener has been ambitious of excelling his brother in ſhewing them in the greateſt perfection; but many a Gardener, after repeated trials, has failed in his attempts; and few by their greateſt ſkill could raiſe them to more than about a yard in height. I proceed to give the true culture of theſe two celebrated ſpecies.

Culture. In order hereto, let the hot-bed be made with care, according to the ſtricteſt rules of the art. Horſe-dung, and litter of any kind, is the proper compoſition of hot-beds; but if any horſes be in high keeping, ſuch as ſtone-horſes, race-horſes, or high-fed coach-horſes, let the dung of theſe be more eſpecially choſen for this purpoſe. In February ſow the ſeeds in exceeding fine, rich, freſh mould; let them be ſown very thinly, and cover them over a quarter, or, at moſt, not more than a third-part of an inch deep. In about a fortnight the plants will appear, at which time let another hot-bed be prepared with the like care and management. This hot-bed is to receive the young plants; on which account let it be near the other, that the plants may be ſpeedily ſhifted to their new-prepared bed. Cover this hot-bed with the ſame kind of rich, freſh mould, made fine, about four inches thick; and by ſuch time as the bed is in a fine temperature, the ſeedlings will be fit for tranſplanting. I have directed the ſeeds to be ſown thinly on the bed, with a view of preſerving a ball of earth at the removal of the plants. With a trowel, therefore, or ſome ſuch inſtrument, carefully take up each plant, preſerve as much mould to the roots as poſſible, and plant them on this new hot-bed in rows at about five inches aſunder. Watering then is neceſſary; but this muſt be done with gentleneſs and care. The uſual method of watering them with watering-pots will be too violent for them; it will overbear the plants, and deſtruction will be the conſequence. Let, therefore, a wiſp of hay be made up in the moſt convenient manner to ſprinkle with: Dip it in a tub of water, and continue ſprinkling until the mould is properly ſettled to the roots of the young plants. This is the proper watering for theſe ſeedlings at their removal; which is the ſecond ſtep of their management.

Upon this, the plants muſt be conſtantly ſhaded from the ſun in the day, and guarded with mats from the injuries of the cold by night. Every day the glaſſes muſt be raiſed to give them air; and when they become wet from the fermentation of the dung and the perſpiration of the plants, the glaſſes muſt be turned in order to dry; and when the weather is ſo bad as to cauſe it to be unſafe to turn the glaſſes, wipe off the moiſture two or three times a day; for if this is neglected, it will drop upon the plants, and be very prejudicial to them. The good proportion of a plant in its different parts conſtitutes one of its greateſt beauties. This muſt be conſtantly attended to; and as the plants encreaſe in ſize, more air muſt be given them, as the weather will permit, to prevent their being drawn up too weak; for when this is done, the ſtems will become ſlender and weak, and order, proportion, and beauty in the plant ſo deſtroyed, as hardly ever more to be regained.

With this management, in about a month the plants will call for a freſh removal; for they will be grown moderately large, and will have met, and covered the bed. The removal ſhould be made into a bark-bed, if you have ſuch conveniency; if not, into a hot-bed of dung. If they are placed in a good bed of tanners bark, they will require no more removals; but if on a hot-bed of dung, another hot-bed muſt be prepared to receive them before they are out of hand. In either caſe, plant them in three-penny pots filled with the like kind of rich, light, freſh mould; and in doing of this, carefully take the plants out of the bed with a trowel, to preſerve the mould about each root. Water them gently and frequently; for theſe plants perſpire freely. Shade them in the heat of the day, and cover them with mats in the night; and every day give them as much air as the weather will permit. A good bark-bed, with proper elevation of glaſſes, is very convenient for this purpoſe; but for want of this, a hot-bed of dung muſt do. In this caſe, let a deep frame be provided, the pots placed upon the hot-bed, and the vacancies filled up to the rims of the pots with any ſort of common mould. After this, ſhade them in the heat of the day, and give them conſtant and frequent waterings in tolerable plenty. When the heat of the bed abates, they muſt be removed into the fourth hot-bed. The pots muſt be plunged up to the rims as before; and now water and ſhade muſt be given them, and the glaſſes muſt be covered down in the night; for, although we may be ſuppoſed to be advanced far in May, yet in that month nocturnal froſts frequently happen. By the beginning of June the plants will be grown to be large and ſtrong, when they muſt have a larger proportion of air, and be hardened by degrees, to be ſet abroad. Frequent waterings muſt be afforded them; and in mild cloudy weather the glaſſes muſt be entirely taken off, which however muſt be placed on again at the approach of evening; and in hot weather the plants muſt be always ſhaded. Let this be the management until the end of June; and in the beginning of July remove them into the green-houſe, and place them near the front windows. At this time let them have a plentiful watering, and here let them ſtand for about a week or ten days, at the end of which remove them into the open air, eſpecially if the weather is ſoft, and inclined to rain. This their firſt removal abroad muſt be made into a well-protected ſhady place; and here they may ſtand about eight days, and then be removed to the places they are deſigned for, which muſt be warm and calm, and in which they will flower and perfect their ſeeds.

This is the true way of bringing theſe plants to their greateſt perfection. I proceed now to the other ſpecies, whoſe management will be attended with much leſs trouble. Theſe are,

Other ſpecies.

3. The *Amaranthus Maximus*, or Tree Amaranth.
4. *Amaranthus* from the Bahama Iſlands.
5. Yellow Indian *Amaranthus*.
6. Prickly *Amaranthus*.
7. China *Amaranthus*.

8. Penſylvanian *Amaranthus*.
9. Erect Virginian *Amaranthus*, or Upright Red Blite.
10. Pellitory-leaved Blite.
11. Small White Blite.
12. Small Green Blite.
13. Wild New-England Blite.
14. Purple Flower-gentle.

The Amaranthus Maximus deſcribed.

3. The *Amaranthus Maximus*, or Tree Amaranth, is a large-growing plant. It will ariſe to the height of ſeven or eight feet. The ſtalk is thick, furrowed, branching, and uſually of a reddiſh tinge. The leaves are large, very rough, of an oblong figure, and end in points. The flowers terminate the ends of every branch, conſiſt of long, pendulous, cylindrical ſpikes, are of a purple colour, and are ſucceeded by plenty of good ſeeds.

Variety.

There is a variety of the Tree *Amaranthus* of lower growth, but with longer ſpikes of flowers. Its uſual growth is to about a yard in height; and its pendulous ſpikes of flowers, which are of a bright purple, will ſometimes be more than two feet long. This variety uſually retains the difference by ſeeds; but, in general, the *Amaranthus Maximus* varies very much by culture, and many imaginary ſpecies are frequently produced.

Deſcription of Amaranthus from the Bahama Iſlands.

4. *Amaranthus* from the Bahama Iſlands. This ſpecies will grow to about a yard high. The ſtalk is thick, and of a purple colour. The leaves alſo are purple, large, oblong, oval, much veined; and thoſe on the lower part of the plant have long, ſtrong footſtalks. The flowers are of a bright-purple colour, and of ſingular conſtruction; the ſpikes are ſhort and cylindrical, and numbers of them ornament the ends of the branches, placed croſswiſe, one upright ſpike always terminating the beautiful cluſter; and ſingle ſpikes are frequent in the lower parts of the plant, growing from the wings of the ſtalks. This ſpecies may be brought forward, by a hot-bed, to produce good ſeeds here. In the country where it abounds, it is uſed as an eſculent plant.

Yellow Indian

5. Yellow Indian *Amaranthus*. This will grow to about the height of the former ſpecies. The ſtalk is moderately firm, and ſtreaked with red. The leaves are large, and have many ribs or nerves of a purple colour; they are of an oval figure, but ſharp-pointed, and grow irregularly on very long footſtalks. The ſtalks are terminated by cluſters of ſpikes of theſe flowers; and being of a yellow colour, cauſe a variety, for which this ſpecies is eſteemed by many.

and Prickly Amaranthus deſcribed.

6. Prickly *Amaranthus* ariſes with an herbaceous, branching ſtalk to the height of about two feet. At the diviſions of theſe branches the prickles are produced; they are very ſharp, and numbers of them at every joint guard the plant. The leaves are oblong, and of a reddiſh colour. The flowers are produced in ſpikes, grow from the joints of the ſtalks, and the principal branches are terminated by cluſters of them; but they are of a dull red colour, and of no very great beauty.

Culture of theſe four ſpecies.

Theſe four ſpecies, in all their varieties, muſt be raiſed by ſowing the ſeeds in March on a moderate hot-bed. They muſt have as much air as poſſible; and when the heat of the firſt hot-bed is abated, they ſhould have a ſecond, to bring them forward. In this the plants ſhould be ſet with care, and well watered; afterwards, they muſt be uſed to the air, and have conſtant watering in dry weather. In June they will be fit to ſet out; and in doing of this, obſerve to have a ball of earth to each root, if poſſible; and if moiſt weather ſhould happen at the time, the plants will droop very little on their removal. Watering afterwards in dry weather muſt be conſtantly afforded them, and they will flower and perfect their ſeeds in the autumn.

The other ſpecies, that require ſtill leſs care, are,

Deſcription of Chineſe,

7. Chineſe *Amaranthus*. This ſpecies riſes with an upright, branching ſtalk to about a yard in height. The leaves are oval, but ſo indented at the ſtalk as to form the figure of an heart; they are ſmall and green, and placed on very long footſtalks. The flowers are produced in roundiſh ſpikes, and grow from the wings of the ſtalks and the ends of the branches: At the wings of the ſtalks are only a few of theſe round heads, ſitting cloſe; but at the extremities of the branches numbers of them grow together, in ſuch a manner, as to form a large, looſe ſpike of flowers. This is an eſculent plant, and much admired by the inhabitants of the country where it naturally grows.

Penſylvanian,

8. Penſylvanian *Amaranthus* riſes with a firm ſtem, which ſends forth many flexible, recurved branches. The leaves are of an oval figure, and pointed. The flowers are produced from the wings of the ſtalks, and terminate the branches in large bunches. This is a well-known plant; and being once admitted into gardens, it ſheds its ſeeds, and produces plants in ſuch plenty, that it will require ſome trouble to keep them from overſpreading the whole quarter into which they were firſt introduced.

and Erect Virginian Amaranthus.

9. Erect Virginian *Amaranthus*, or Upright Red Blite. This riſes with an erect, branching ſtalk, ſtreaked with red, to the height of about a yard. The leaves are broad and rough; thoſe on the lower part of the plant are blunt, and of an oval figure; but thoſe which grow towards the top are acute. The flowers are of a deep-purple colour; the ſpikes grow erect, and terminate the ends of the branches in cloſe cluſters.

Varieties.

There are ſeveral varieties of this ſpecies: Some of them are produced with very pale-coloured flowers, others with red, and a third ſort with flowers of a greeniſh caſt; but there is no very extraordinary beauty to recommend any of them.

Deſcription of Pellitory-leaved,

10. Pellitory-leaved Blite. This ſpecies riſes with a ſtrong, branching ſtalk to the height of about three feet. The leaves are of a lanceolate figure, obtuſe, and have a natural tendency to double backwards. The flowers are produced from the wings of the ſtalks in cluſters, and are poſſeſſed of no extraordinary properties more than the others.

Small White,

11. Small White Blite. This ſpecies naturally divides into ſeveral branches, which ſpread upon the ground. The leaves are oval and blunt, and their edges are notched. The flowers are produced from the wings of the ſtalks in ſmall heads. There are many ſorts of this ſpecies; and when once introduced into a garden, they will ſhed their ſeeds, and come up in ſuch plenty, that they will be as troubleſome as weeds to extirpate.

Small Green,

12. Small Green Blite. This ſpecies ariſes with an erect, branching ſtalk to about two feet high. The ſtalk has red ſtreaks running lengthways. The leaves have a reddiſh, membranaceous border, are of an oblong, oval figure, emarginated, and have a pretty effect. The flowers are produced in ſmall ſpikes, are greeniſh, and of but little figure.

and Wild New-England Blite.

13. Wild New-England Blite. This ſpecies ariſes with a ſmooth ſtalk to about a yard high.

The leaves are of an oblong figure, and very green. The flowers alſo are green, grow horizontally, and are produced in cluſters from the wings of the ſtalks and the ends of the branches; they are of a green colour, which cauſes a ſtriking variety among the other ſorts; otherwiſe this is a plant of very little beauty.

Purple Flower-gentle deſcribed.

14. Purple Flower-gentle ariſes with a large, green, branching ſtalk to about a yard high. The leaves are of an oval figure, but pointed at their extremities. The flowers are produced from the ends of the branches in cluſters; the ſpikes ſtand erect, are of a fine purple colour, and have yellow ſtamina.

Culture of the laſt ſeven ſpecies.

Theſe laſt ſeven ſpecies are eaſily raiſed by ſowing the ſeeds in any common border of the garden in March. They will readily come up; and when the plants are two or three inches high, they muſt be hoed to a proper diſtance. In doing this, leave the ſtrongeſt plants for flowering; and let the diſtance for the larger-growing ſorts be near a yard from each other, if the ground be rich and in good condition; whilſt two feet will be ſufficient for the ſmaller kinds. A very large border might be filled with theſe plants in their proper aſſortments, and ſpaces ſhould be left in which to ſet thoſe from the hot-bed. Theſe will encreaſe the variety, and all together will have a noble, ſtriking look, as being very ſingular and different from the general appearance of annuals. The contraſt is the greater on this account, for which alſo (next to philoſophical obſervation) their culture is recommended.

Moſt of the ſpecies of the *Amaranthus* that grow in hot parts are uſed by the inhabitants as eſculents, and the propagation of them for thoſe purpoſes among us has been much recommended; but as our tables are already garniſhed with ſuch ſweet variety of ſo many admirable ſorts, whoſe goodneſs and excellence we daily experience, I think we may very well leave the others to the natives of the countries where they naturally grow, with whom I make no doubt but they very well agree.

Titles.

Melancholicus.

1. The *Amaranthus Bicolor* is entitled, *Amaranthus glomerulis triandris axillaribus ſubrotundis ſeſſilibus, foliis lanceolatis acuminatis.* Tournefort calls it, *Amaranthus colore obſcuriori, ſive mas.* It grows naturally in India.

Tricolor.

2. *Amaranthus Tricolor* is titled, *Amaranthus glomerulis triandris axillaribus ſubrotundis amplexicaulibus, foliis lanceolato-ovatis.* Caſpar Bauhine calls it, *Amaranthus folio variegato*; and Lobel, *Amaranthus Tricolor.* It grows common in India.

Caudatus.

3. *Amaranthus Maximus*, or Tree Amaranth, is, *Amaranthus racemis pentandris decompoſitis cylindricis, pendulis longiſſimis.* It is the *Amaranthus Maximus* of Caſpar Bauhine, and the *Blitum majus Peruvianum* of Cluſius. It grows naturally in Perſia, Peru, &c.

Sanguineus.

4. Bahama *Amaranthus.* This ſpecies is entitled, *Amaranthus racemis pentandris compoſitis erectis, lateralibus patentiſſimis, foliis ovato-oblongis.* It grows naturally in the Bahama Iſlands.

Flavus.

5. Yellow Indian Amaranth is, *Amaranthus racemis pentandris compoſitis, ſummo infimiſque nutantibus, foliis ovatis mucronatis.* It grows naturally in India.

Spinosus.

6. Prickly Amaranth is, *Amaranthus racemis pentandris cylindricis erectis, axillis ſpinoſis.* It grows naturally in both the Indies.

Tristis.

7. China Amaranth is, *Amaranthus glomerulis triandris rotundatis ſubſpicatis, foliis ovato-cordatis emarginatis, petiolo brevioribus.* It is a native of China.

Retroflexus.

8. Penſylvanian Amaranth is titled, *Amaranthus racemis pentandris lateralibus terminalibuſque, caule flexuoſo villoſo, ramis retrocurvatis.* It grows naturally in Penſylvania.

Lividus.

9. Erect Virginian Amaranth, or Upright Red Blite, is termed, *Amaranthus glomerulis triandris ſubſpicatis rotundatis, foliis rotundato-ovatis retuſis.* This is the *Blitum pulchrum rectum magnum rubrum* of John Bauhine. It grows naturally in Virginia.

Græcizans.

10. Pellitory-leaved Blite is, *Amaranthus glomerulis triandris axillaribus, foliis lanceolatis obtuſis repandis.* Gronovius calls it, *Amaranthus floribus lateralibus congeſtis, foliis lanceolatis obtuſis.* It grows naturally in Virginia.

Blitum.

11. Small White Blite is titled, *Amaranthus glomerulis lateralibus trifidis, foliis ovatis retuſis, caule diffuſo.* Tournefort calls it, *Amaranthus ſylveſtris & vulgaris.* Cammerarius, Plukenet, and Ray, term it, *Blitum album minus.* It grows in many parts of Europe.

Viridis.

12. Small Green Blite is, *Amaranthus glomerulis triandris, floribus maſculis trifidis, foliis ovatis emarginatis, caule erecto.* Caſpar and John Bauhine call it, *Blitum album minus.* It grows naturally in many parts of Europe.

Hybridus.

13. Wild New-England Blite is titled, *Amaranthus racemis pentandris decompoſitis congeſtis nudis, ſpiculis conjugatis.* Ray terms it, *Amaranthus ſylveſtris maximus Novæ Angliæ, ſpicis viridibus.* It grows naturally in New-England and Virginia.

Hypochondriacus.

14. Purple Flower-gentle is, *Amaranthus racemis pentandris compoſitis confertis erectis, foliis ovatis mucronatis.* Tournefort calls it, *Amaranthus ſylveſtris maximus Novæ Angliæ, ſpicis purpureis.* It grows common in Virginia.

Claſs and order in the Linnæan Syſtem.

Amaranthus is of the claſs and order *Monoecia Pentandria*; and the characters are,

The characters.

Male Flowers, which are in the ſame plant with the Female.

1. CALYX is an erect, coloured, permanent perianthium, compoſed either of three or five ſpear-ſhaped, acute leaves.

2. COROLLA. There is none.

3. STAMINA are either three or five capillary filaments the length of the calyx, having oblong antheræ.

Female Flowers.

1. CALYX is altogether the ſame as in the males.

2. COROLLA. None.

3. PISTILLUM conſiſts of an oval germen, and of three ſhort ſubulated ſtyles, with ſimple, permanent ſtigmas.

4. PERICARPIUM is an oval, compreſſed, coloured capſule of one cell.

5. SEMEN. The ſeed is ſingle, globoſe, compreſſed, and large.

CHAP.

CHAP. XIII.

AMBROSIA.

THE ſpecies of the *Ambroſia* have no very extraordinary beauty, and ſo good a name ought to belong to a better collection. They cauſe variety, however, to the Gardener, and afford pleaſure to the Botaniſt, on which accounts they ſhall have a place here. The ſpecies are,

Species.

1. The Common Sea *Ambroſia*.
2. The Mugwort-leaved Scentleſs *Ambroſia*.
3. Water Horehound-leaved Scentleſs *Ambroſia*.
4. Plane-tree-leaved *Ambroſia*.

Deſcription of the Common Sea,

1. The Common Sea *Ambroſia* will grow to near a yard high. The leaves are large, ſtrongly ſcented, and deeply cut into many parts. The ſtalk is upright, firm, and ſends out many ſide-branches. From the wings of theſe branches are produced the flowers, which grow ſingly in long, hairy ſpikes. The male flowers are placed at the end of the ſpikes, and the female lower: They ſit cloſe, and the females are ſucceeded each by a ſingle ſeed, contained in a hard, oval ſhell.

Mugwort-leaved Scentleſs,

2. Mugwort-leaved Scentleſs *Ambroſia*. The leaves are large, winged, and much reſemble thoſe of Mugwort. Thoſe of the former ſpecies are poſſeſſed of a very ſtrong odour, but theſe are altogether without ſcent. The ſtalk will grow to about a yard in height. It divides into ſeveral branches near the top, and the flowers terminate the ends of them in bunches. It is the property of the ſpikes of the former ſort to be very hairy; thoſe of this ſpecies are entirely ſmooth. The male flowers occupy the tops of the ſpikes, and the female the lower parts. They will be in blow in July, and afford good ſeeds in the autumn.

Water Horehound-leaved,

3. Water Horehound-leaved *Ambroſia*. The leaves of this ſpecies are of two figures; thoſe which come out firſt are whole or entire, but thoſe which occupy the upper parts of the ſtalk are winged: They are very beautifully divided, and without ſcent. The ſtalk will grow to near a yard high, and divides into branches near the top. From the wings of theſe branches the flowers are produced, which grow in ſpikes like the other ſpecies: The male and female flowers are arranged in the ſame manner, and are ſucceeded by the like kind of ſeeds in the autumn.

and Plane-tree-leaved Ambroſia.

4. Plane-tree-leaved *Ambroſia*. This is a very large ſpecies; it will grow to be ſix or eight feet high. The ſtalk is thick, firm, hairy, and branching. The leaves are compoſed of three and five lobes, which are ſerrated; they are large, and reſemble thoſe of the Eaſtern Plane-tree. The flowers are male and female, like the others; but they are ſo exceeding ſmall as hardly to be noticed.

Variety.

There is a variety of this ſpecies that will grow to be twelve or fourteen feet high, the leaves of which are trifid, very rough, and without ſcent.

Method of propagation.

All theſe ſpecies ſhould be ſown in the autumn, ſoon after the ſeeds are ripe. The plants will then come up early in the ſpring, and will be much ſtronger than thoſe raiſed from ſeeds ſown in the ſpring. But if the ſowing is deferred until ſpring, give them the advantage of an hotbed to bring them forward. Indeed, without this aſſiſtance, the ſpecies will often lie until the ſpring following before they appear. When they are fit to tranſplant, remove them in a moiſt day to the places they are deſigned for. In taking them up, be careful to preſerve a ball of earth to each root; and water and ſhade them, if the weather proves hot, until they have taken root. As the plants advance in height, ſome ſtakes muſt be placed for their ſupport, or they will be liable to be blown down by the high winds. The diſtance theſe plants ſhould be allowed ſhould be according to their growth; the largeſt, and particularly the Plane-tree ſpecies, ſhould not be planted nearer than about a yard from each other. In order to cauſe them to ſhow to advantage, the beſt way will be to plant them in a row at the back of a long border. Thus diſpoſed, they will make a good appearance; and the lower annuals may be arranged in the front, and form a ſlope by their different growths.

Proper ſituation.

Proper ſoil.

All theſe ſpecies love a rich, moiſt ſoil; and in ſuch a ſituation they will arrive at greater bulk and height; though they will be ſurer of bringing their ſeeds to perfection in a ſandy or rubbiſhy ſituation. However, they ſeldom fail of this any where; and very often they will ſhed their ſeeds in the autumn, which will come up in the ſpring, and become the ſtrongeſt plants, without trouble or care.

There is a variety of the ſecond ſpecies which will grow to a great height. The leaves are large, winged, and hairy; and the ſtalk becomes ſhrubby, and, if preſerved in a green-houſe in the winter, will continue for many years. But, as the plants are large, and the flowers inconſiderable, it is hardly deſerving of a place that is due only to thoſe of the firſt eſteem and beauty. If any perſon is deſirous of a plant or two for variety, they may be raiſed from ſeeds like the other ſpecies, and afterwards they may be encreaſed by cuttings.

Titles.

1. The Common *Ambroſia* is titled, *Ambroſia foliis multifidis, ſpicis ſolitariis piloſis ſeſſilibus.* In the *Hortus Cliffort.* it is titled, *Ambroſia foliis multifidis tripartitis.* Caſpar Bauhine calls it, *Ambroſia maritima*; and Dodonæus, ſimply, *Ambroſia.* It grows naturally on the ſandy coaſts of Hetruria and Cappadocia.

Mariti=
=ma.

2. Mugwort-leaved Scentleſs *Ambroſia* is titled, *Ambroſia foliis bipinnatifidis, racemis paniculatis, terminalibus glabris.* Gronovius calls it, *Ambroſia foliis compoſito-multifidis, internodiis remotiſſimis*; and Herman, *Ambroſia maritima, foliis artemiſiæ inodoris, elatior.* It grows naturally in Virginia and Canada.

Elatior.

3. Water Horehound-leaved *Ambroſia* is, *Ambroſia foliis bipinnatifidis primoribus ramulorum indiviſis integerrimis.* Plukenet, Moriſon, and Ray, call it, *Ambroſia maxima inodora; marrubii aquatici foliis tenuitèr laciniatis, Virginiana.* It grows naturally in Virginia and Penſylvania.

Artemiſii=
=folia.

4. Plane-tree-leaved *Ambroſia* is titled, *Ambroſia foliis trilobis ſerratis.* Gronovius calls it, *Ambroſia foliis palmatis, laciniis lanceolatis ſerratis*; Moriſon,

Trifida.

Moriſon, *Ambroſia Virginiana maxima, platani Orientalis folio* The *Ambroſia gigantea inodora, foliis aſperis trifidis*, of Ray, is a variety of this ſpecies. It grows naturally in Canada and Virginia.

Claſs and order in the Linnæan ſyſtem. The characters.

Ambroſia is of the claſs and order *Monoecia Pentandria*; and the characters are,

I. Male Flowers.

1. Calyx. The common perianthium is a ſingle plane leaf, the length of the florets.

2. Corolla is compoſed of many florets collected into a round head; each floret is a funnel-ſhaped, erect petal, divided at the top into five ſegments.

3. Stamina are five very ſmall filaments, with erect, parallel, acuminated antheræ.

II. Female Flowers, which are below the Males.

1. Calyx is an acuminated, permanent, monophyllous perianthium.

2. Corolla. There is none.

3. Pistillum conſiſts of an oval germen ſituated at the bottom of the calyx, a filiforme ſtyle the length of the calyx, and two long, briſtly, divaricated ſtigmas.

4. Pericarpium is an oval nut, of one cell.

5. Semen. The ſeed is ſingle, and roundiſh.

C H A P. XIV.

AMETHYSTEA.

The plant deſcribed.

THERE is only one ſpecies of the *Amethyſtea*, which is a pretty little flower. It is an annual, and will grow to about a foot in height. The leaves are ſmall, deeply cut into three parts, ſerrated, and of a dark-green colour. The ſtalk is upright, and puts forth near the top a few ſide-branches, which are of a blue colour. At the ends of theſe branches grow the flowers in ſmall umbels; they are of a clear-blue colour, will be in blow in June or July, and their ſeeds ripen in the autumn. The blue branches, and the leaves immediately under the flowers, are a great ornament to theſe plants. The flowers themſelves are ſmall; but by this addition of colouring, a ſingular and ſtriking appearance is preſented.

Culture.

In order to have theſe plants flower early in the ſummer, ſow the ſeeds the autumn before, ſoon after they are ripe. Almoſt any ſoil or ſituation will do for them; and after having once obtained a ſtock, the ſeeds will ſow themſelves, and come up without further trouble.

Titles. Cærulea.

There being no other ſpecies of this genus, it ſtands ſingly with the name *Amethyſtea*. Amman calls it, *Amethyſtina montana erecta, foliis exiguis digitatis trifidis ſerratis, floſculis cum comâ è cæruleo-janthinis*. It grows naturally on the mountains of Siberia.

Claſs and order in the Linnæan ſyſtem. The characters.

Amethyſtea is of the claſs and order *Diandria Monogynia*; and the characters are,

1. Calyx is a monophyllous, bell-ſhaped, angular, permanent perianthium, divided at the top into five equal pointed ſegments.

2. Corolla conſiſts of one ringent petal, rather longer than the calyx. The limb is cut into five parts that are nearly equal. The upper lip is erect, concave, roundiſh, and divided into two parts. The lower lip is cut into three parts, the two ſide-ſegments of which are ſhort, roundiſh, and erect; but the middle ſegment is longer, concave, entire, and the length of the upper lip.

3. Stamina are two ſlender filaments longer than the upper lip, and placed under it, with ſimple roundiſh antheræ.

4. Pistillum conſiſts of a quadrifid germen, a ſingle ſtyle the length of the ſtamina, and two acute ſtigmas.

5. Pericarpium. There is none.

6. Semina. The ſeeds are four, ſhorter than the calyx, obtuſe, and angular on their inner ſide.

CHAP. XV.

AMMANNIA.

THE ſpecies of *Ammannia* are of no very extraordinary beauty. They are ſeldom propagated in our gardens; but as ſcarce and uncommon plants always enhance the value of a collection, they are ſought after by ſome. There are but three diſtinct ſpecies of this family, and two of them coming from warm countries are tender, and require the advantage of the ſtove, to ſhew them in their natural luxuriancy of growth; but as good plants may be raiſed, and by the judicious hand of the Gardener may be made to ſhew themſelves in their different degrees of perfection in the courſe of the ſummer and autumnal months, they may with no great impropriety be introduced into this place. The other ſpecies is an hardy annual, and is uſually called,

Species. 1. The Virginian *Ammannia.* The more tender ſorts are,

2. The Barbadoes *Ammannia.*

3. The China *Ammannia.*

Virginian 1. Virginian *Ammannia* will grow to about a foot high. The leaves are long, narrow, and placed on very ſhort footſtalks at the joints. The ſtalk is round, ſucculent, branching, of a reddiſh colour, and the ſide-branches near the bottom of the plant are produced oppoſite to each other. The flowers grow without any uniformity from the different parts of the plant: From the extremities they ſhew themſelves in cluſters, and often form themſelves into kind of ſpikes; from the lower part of the plants they are produced ſingly, riſing from the wings of the ſtalks. Their colour is white, and each is compoſed of four oval patent petals: They will be in blow in Auguſt, and their ſeeds ripen in October.

Barbadoes, 2. Barbadoes *Ammannia* will grow to about a foot high. The leaves are long, narrow, and of a thickiſh conſiſtence; they are of a pale-green colour, and half ſurround the ſtalk with their baſe. The ſtalk is four-cornered, ſucculent, and tender. The flowers are produced in cluſtered whorls round the ſtalks at the joints. The ſpecies of this genus have ſometimes petals, but for the moſt part none. When the flower is perfect by its petals, the number is four. The ſpecies under conſideration has no petals to the flower, by which it may be ſuppoſed that the figure they make is not very great.

and China Ammannia deſcribed. 3. China *Ammannia* is a very ſmall plant, ſeldom exceeding three inches in height. The ſtalk is tender, round, upright, and of a duſky-brown colour. The leaves are ſpear-ſhaped, and narrow; their edges are entire, and they grow oppoſite on the ſtalk on very ſhort footſtalks. The flowers are very ſmall and numerous, and grow in whorls round the ſtalks at the wings of the leaves; they grow on pedicles, and are ſucceeded by roundiſh, reddiſh capſules, containing the ſeeds.

Culture. The firſt ſpecies is an hardy annual, and may be raiſed by ſowing the ſeeds the latter end of March, on a moderate hotbed; and when all danger of a froſt is over, they may be planted out in a moiſt day, with other annuals of the like hardy nature.

The other ſpecies ſhould have the advantage of three different hotbeds. From the ſecond hotbed they ſhould be tranſplanted into pots, and plunged into the third; and if from this they are removed into the ſtove, it will be more ſuitable to their natures; neverthelefs if they are kept under the glaſſes, they will flower very well, and produce good ſeeds for a ſucceſſion.

All theſe ſorts require frequent watering, from the time of their firſt coming up until after they perfect their ſeeds; they grow naturally in moiſt places, eſpecially the ſecond ſpecies, which grow in the marſhy grounds of Barbadoes, and the neighbouring iſlands: This teaches us, that a more than ordinary ſhare of that aſſiſtance ſhould be allowed them.

Titles. 1. Virginian *Ammannia* is titled, *Ammannia foliis ſubpetiolatis, caule ramoſo.* It grows naturally in moiſt places in Virginia. Ramosior.

2. Barbadoes *Ammannia* is, *Ammannia foliis ſeimamplexicaulibus, caule tetragono.* Brown calls it, *Iſnardia foliis ſeſſilibus lanceolatis quaſi auritis, floribus ternis.* It is a native of the Caribbees. Latifolia.

3. China *Ammannia* is titled, *Ammannia foliis ſubpetiolatis, capſulis calyce majoribus coloratis.* Plukenet calls it, *Anonymos, linariæ folio, orientalis, gallii lutei flore, herba capſularis verticillata.* It grows naturally in China. Baccifera.

Claſs and order in the Linnæan ſyſtem. The characters. *Ammannia* is of the claſs and order *Tetrandria Monogynia*; and the characters are,

1. Calyx is an oblong, erect, quadrangular, bell-ſhaped, permanent perianthium, marked with eight ſtriæ, and divided at the top into eight ſlender ſegments.

2. Corolla. There is either none, or elſe four oval patent petals, inſerted in the calyx.

3. Stamina conſiſt of four ſetaceous filaments the length of the calyx, into which they are inſerted, with didymous antheræ.

3. Pistillum conſiſts of a large oval germen, a very ſhort ſimple ſtyle, and a capitated ſtigma.

5. Pericarpium is a roundiſh quadrilocular capſule, ſurrounded by the calyx.

6. Semina. The ſeeds are ſmall, and numerous.

C H A P. XVI.

AMMI, BISHOP's WEED.

THERE is only one real annual ſpecies of the *Ammi*, tho' authors have framed to themſelves ſeveral imaginary ſpecies, and have diſtinguiſhed them by titles accordingly. They have uſually gone by the names of the Common Biſhop's Weed, the Large Biſhop's Weed, and the True Biſhop's Weed. The ſpecies of which theſe are a variety is the ſort uſed in medicine, and is much propagated on that account, the ſeeds being an excellent carminative, and an ingredient in many compoſitions.

The plant deſcribed.

The root is oblong, ſlender, and white. The leaves are pinnated, large, and the radical ones are ſupported by long footſtalks. The folioles are ſpear-ſhaped, narrow, and ſerrated; the leaves on the ſtalks are finely cut into a multitude of linear ſegments, forming a leaf like that of Fennel. The ſtalk will grow from a foot to near a yard high; it is round, ſtriated, jointed, and the tops of the branches are ornamented with the flowers. Theſe grow in large umbels, and the general umbel conſiſts of ſeveral ſmaller, diſpoſed in a radiated manner: Their colour is white; they will be in blow in June, and their ſeeds ripen in Auguſt.

Method of propagating them.

The ſeeds ſhould be ſown in the autumn, ſoon after they are ripe, otherwiſe they are ſubject to lie a year in the ground.

When a quantity of theſe plants is raiſed for the ſake of the ſeeds for medicinal uſes, they ſhould be ſown in the autumn, and in the ſpring the plants ſhould be hoed to about five or ſix inches diſtance. They will flower in June; and in Auguſt, as the ſeeds ripen, they ſhould be conſtantly gathered, otherwiſe the beſt of them will be loſt.

They will grow and flouriſh well in almoſt any ſoil or ſituation, though an open expoſure is more ſuitable to their nature.

Titles.

Majus.

This ſpecies is titled, *Ammi foliis inferioribus pinnatis lanceolatis ſerratis ſuperioribus multifidis linearibus*. In the *Hortus Cliffort.* it is named, *Ammi laciniis foliorum caulinis lanceolatis*. Caſpar Bauhine calls it, *Ammi majus*; and Dodonæus, *Ammi vulgare*. It grows naturally in the vineyards of Italy, Spain, and ſeveral parts of the Eaſt.

* * *

C H A P. XVII.

A N A C Y L U S.

THREE very moderate annuals compoſe the ſpecies of *Anacylus*. Theſe are called,

Species.

1. The Cretan *Anacylus*.
2. The Oriental *Anacylus*.
3. The Valentian *Anacylus*.

Deſcription of The Cretan,

1. The Cretan *Anacylus*. The leaves are decompound, and finely divided into a multitude of narrow parts; the diviſions are plane, and the whole leaf very much reſembles that of Chamomile. The ſtalks are ſmall, and trailing. The flowers are ſmall, of a white colour, grow ſingle, and their heads are inflexed; they will be in blow in July, and the ſeeds ripen in September.

Oriental,

2. Oriental *Anacylus*. This plant hath compound leaves only; they are pinnated, and each is compoſed of ſeveral ſetaceous acute lobes. The ſtalks are ſhort, weak, and trailing. The flowers are white, and much reſemble thoſe of Chamomile; they will be in blow in July, and the ſeeds ripen in September.

and Valentian Anacylus.

3. Valentian *Anacylus*. This hath decompound hairy leaves, which much reſemble thoſe of Chamomile. The ſtalk is ſlender, branching, and about a foot in length. The flowers are very pretty; they are large, of a bright-yellow colour, are produced ſingly from the ends of the branches in July and Auguſt, and they perfect their ſeeds in the autumn.

Method of raiſing them.

The culture of theſe annuals is by ſowing the ſeeds in the places where they are deſigned to flower; for the beauty of them, which conſiſts chiefly in the leaves, is much diminiſhed by their being removed: It cauſes a ſtoppage in their growth; and tho' they will grow very well, they often have an unhealthy, formal, diſagreeable look, very different from the eaſe, health, and verdure inherent in thoſe plants that have never been diſturbed.

Any border of common garden-mould will do for their reception, and any time in the ſpring is a good ſeaſon for ſowing them; but if that buſineſs is deferred until the latter end of it, they will not flower before Auguſt. When the plants come up too thick, thin them to about ſix inches diſtance,

tance, water them in very dry weather in evenings, keep them clean from weeds, and that is all the trouble they will require until they come to flower. In September, as the ſeeds ripen, a ſmall quantity of each ſort ſhould be gathered and preſerved, to keep up the ſucceſſion.

Titles. 1. The *Anacylus* of Crete is titled, *Anacylus foliis decompoſitis linearibus : laciniis diviſis planis.* Creticus. Tournefort calls it, *Cotula Cretica minima, chamemeli folio, capite inflexo*; Vaillant, *Santolinoides annua procumbens, chamæmeli folio.* It grows naturally in Crete.

2. Oriental *Anacylus* is, *Anacylus foliis compoſitis ſetaceis acutis rectis.* Orientalis. Tournefort calls it, *Chamæmelum orientale, foliis pinnatis.* It grows naturally in the Eaſt.

Valentinus. 3. Valentian *Anacylus* is, *Anacylus foliis decompoſitis linearibus : laciniis diviſis teretiuſculis acutis, floribus floſculoſis.* Cluſius calls it, *Chryſanthemum Valentinum*; and John Bauhine, *Buphthalmo tenuifolio ſimile.* It grows naturally in fields, and by the way-ſides, in Valentia.

Claſs and order in the Linnæan ſyſtem. *Anacylus* is of the claſs and order *Syngeneſia Polygamia Superflua*; and the characters are,

The characters. 1. CALYX is hemiſpherical, and compoſed of numerous, oval, plane, acute ſcales, lying over each other.

2. COROLLA is compound and radiate. The hermaphrodite florets are numerous in the diſk, and the female flowers are uſually from five to ten in number. Each of the hermaphrodite flowers conſiſts of a funnel-ſhaped petal, the limb of which is cut into five ſpreading ſegments. The female flowers have each a compreſſed tube, with an oval limb that is entire.

3. STAMINA of the hermaphrodite flowers are five very ſhort capillary filaments, with a cylindrical tubulous anthera.

4. PISTILLUM of the hermaphrodite flowers conſiſts of an oblong compreſſed germen, a filiforme ſtyle the length of the ſtamina, and a bifid ſtigma.

Of the females it conſiſts of an oblong membranaceous germen, a filiforme ſtyle the length of the corollulæ, and two ſlender reflexed ſtigmas.

5. PERICARPIUM. There is none.

6. SEMINA. The ſeeds of the hermaphrodite flowers are ſingle, oblong, and compreſſed.

Of the female flowers they are ſingle, oblong, and have a membranaceous border that is indented at the top.

The receptacle is convex, and paleaceous.

CHAP. XVIII.

ANAGALLIS, PIMPERNEL.

THE Common Pimpernel is well known in our gardens and fields as a weed; but there is an elegance in the flower that demands attention, and pleaſure is always afforded from a nice obſervation of its ſtructure. There are ſeveral varieties of it which ought not to be paſſed over unnoticed; ſo that I propoſe here to conſider the different ſorts of,

Species. 1. The Common Pimpernel. And,
2. The Broad-leaved Spaniſh Pimpernel.

Deſcription of the Common Pimpernel. 1. The Common Pimpernel is a low trailing plant. The ſtalks are few; they are ſmooth, ſquare, hollow, of a pale-green colour, and lie on the ground. The leaves are oval, their edges undivided, and they grow oppoſite by pairs without any footſtalk. The flowers are produced from the wings of the leaves on long footſtalks. Each is compoſed of a ſingle ſpreading petal, which is beautifully divided into five parts at the brim: In the center are placed the ſtamina, which are ſhort, and a great ornament to the flower. They will be in blow in moſt of the ſummer months, and they are ſucceeded by globular capſules containing the ſeeds.

Their flowers are of the following varieties:
The Red Pimpernel,
Varieties. The White Pimpernel,
The Blue Pimpernel,
The Purple Pimpernel.

It is the Red Pimpernel that is the weed in our gardens; the others are much eſteemed by many people, for which reaſon they are careful of preſerving the ſeeds of the different ſorts; but being ſeminal varieties only, many of the Common Red ſort will appear among them; and which indeed, were the commonneſs of it to be diſregarded, is inferior in beauty to none of them.

2. The Broad-leaved Spaniſh Pimpernel. This hath a trailing, compreſſed, branching, quadrangular ſtalk. Broad-leaved Spaniſh Pimpernel deſcribed. The leaves are ſmooth, broad, cordated, and embrace the ſtalk with their baſe. The flowers come out from the wings of the leaves ſingly on naked round footſtalks; they appear in June, July, and Auguſt; they are large, of a blue colour, and are ſucceeded by plenty of good ſeeds a few weeks after the flowers are fallen.

Method of propagation. There is no difficulty in propagating all theſe ſorts. Sow them any where, and they will grow. All the trouble they will require is to mark the beſt ſorts for ſeeds, keep them ſeparate, and pull up the Common Red-flowering ſorts as they appear amongſt them.

The Broad-leaved Spaniſh Pimpernel riſes with as much eaſe from ſeeds as the others, and requires no more trouble than keeping them clean from weeds.

Titles. 1. Common Pimpernel is titled, *Anagallis foliis indiviſis, caule procumbente.* Van Royen calls it, Arvensis. *Anagallis foliis indiviſis.* In the *Hortus Cliffort.* it is called, *Anagallis foliis ovatis.* Caſpar Bauhine names it, *Anagallis Phœniceo flore*. It grows naturally in moſt parts of Europe.

Latifolia. 2. Broad-leaved Spaniſh Pimpernel is termed, *Anagallis foliis cordatis amplexicaulibus, caulibus compreſſis*. Tournefort calls it, *Anagallis Hiſpanica latifolia, maximo flore*; and Barrelier, *Cruciata montana minor, flore cæruleo*. It grows naturally in Spain.

CHAP. XIX.

ANASTATICA, ROSE of JERICHO.

Species. OF this genus there are two ſpecies, viz.

1. The *Hierochuntea Anaſtatica*.

2. The Syrian *Anaſtatica*.

Deſcription of the Hierochuntea 1. The *Hierochuntea Anaſtatica* is a very low-growing plant, ſeldom riſing higher than half a foot. The branches are numerous, ligneous, and form themſelves into a ſmall, roundiſh, buſhy head. The leaves very much reſemble thoſe of the olive-tree; they are oblong, obtuſe, hoary, and grow ſingly at the joints. The flowers are produced from the wings of the branches in very ſhort ſpikes; they are ſmall, of a whitiſh-green colour, will be in blow in Auguſt, but are ſeldom ſucceeded by good ſeeds here.

and Syrian Anaſtatica 2. Syrian *Anaſtatica*. This is another very low-growing ſpecies of this genus. The branches are numerous, and the leaves are narrow, and ſharp-pointed. The flowers are produced from the diviſions of the branches in longer ſpikes than the former; they are ſmall, whitiſh, and in their own countries are ſucceeded by ſhort, oval, roſtrated pods containing the ſeeds.

Amazing property of them. There is an amazing property peculiar to theſe plants. After the flowers and ſeeds are ripe, the plant dies, and contracts itſelf into a kind of globular form; and upon ſetting this in a baſon of warm water, though it be years after, the branches will expand, and preſent themſelves with their ſeed-veſſels again, as in their uſual manner of growth.

Culture. Theſe plants are to be propagated by the ſeeds, which ſhould be procured from the places where they naturally grow; for it is very ſeldom we can ripen them in theſe parts. They grow naturally on ſandy, deſert ground, in uncultivated places near the ſea; and this teaches us, that their ſituation with us ought to correſpond in ſome meaſure with that of their native places of growth. To the natural ſoil, therefore, of the garden (for they do not require much dung) let one half of ſea or drift ſand be added; and having incorporated it well with the mould of the border, ſow the ſeeds very thinly on it, and ſift over them not more than a barley-corn's breadth of fine ſandy freſh mould. The beginning of April is the ſeaſon for this work, and early in May you may expect your plants to appear. Weed them conſtantly, and give them a little water at a time; and repeat this often, if dry weather ſhould happen. Thin them to proper diſtances by drawing up the weakeſt plants, and throwing them away; for they will not bear tranſplanting. Let their diſtance from one another in the bed be five inches; and when the plants ſhew their flowers, which will be about Auguſt, place over the bed an hot-bed frame, to be ready to cover them with glaſſes, if much wet ſhould happen; for that will deſtroy the tender ſtamina before the ſeed is fecundated, and cut off all means of ſucceſſion.

If the plants are but few, ſome carnation glaſſes may be ſet over the flowers, and by that means the ſtamina may be preſerved, and ſeed obtained. But this is very rarely to be done. In the beſt and moſt favourable ſeaſons, our hopes of raiſing good ſeeds muſt be but ſmall; neither are the plants worth propagating, unleſs for philoſophical obſervation, and that amazing property of dilating and expanding themſelves into their natural form of growth ſeveral years after they have been pulled up and dried.

Name of the firſt ſpecies in Catholic countries. In Catholic countries, the firſt ſpecies is called, *Roſa Mariæ*, and is ſuperſtitiouſly believed to open its flowers about the midnight preceding Chriſtmas-day.

Titles. 1. The *Hierochuntea Anaſtatica* is titled, *Anaſtatica foliis obtuſis, ſpicis axillaribus breviſſimis, ſiliculis angulatis ſpinoſis*. In the *Hortus Cliffort.* it is termed, ſimply, *Anaſtatica*. Moriſon calls it, *Thlaſpi roſa de Hiericho dictum*; Caſpar Bauhine, *Roſa Hierochuntica vulgò dicta*; and Camerarius, *Roſa Hierochuntica*. It grows naturally on the ſhores of the Red Sea; alſo in Syria, and ſome other parts. Hierochuntica.

Syriaca 2. Syrian *Anaſtatica*. This is titled, *Anaſtatica foliis acutis, ſpicis folio longioribus, ſiliculis ovatis roſtratis*. Gronovius calls it, *Anaſtatica quæ Myagrum ex Summatra*; Caſpar Bauhine, *Roſa Hiericontea ſylveſtris*; and Camerarius, *Roſa Hierichuntica alia*. It grows naturally in the deſert parts of Syria.

Claſs and order in the Linnæan ſyſtem. *Anaſtatica* is of the claſs and order *Tetradynamia Siliculoſa*; and the characters are,

The characters. 1. Calyx is a perianthium compoſed of four oval, oblong, concave, erect, deciduous leaves.

2. Corolla is compoſed of four roundiſh, plane, patent petals, placed in form of a croſs.

3. Stamina. There are ſix ſubulated filaments the length of the calyx; four of theſe are erect, the other two are ſhorter and incurved. The antheræ are roundiſh.

4. Pistillum conſiſts of a very ſmall bifid germen, a ſubulated, permanent ſtyle the length of the ſtamina, and a capitated ſtigma.

5. Pericarpium is a very ſhort, bilocular pod.

6. Semen. The ſeed is roundiſh, and a ſingle one only is lodged in each cell.

CHAP. XX.

ANCHUSA, BUGLOSS.

THE perennial ſpecies of *Anchuſa* have been already treated of; thoſe of ſhorter duration are,

Species.

1. The Common Bugloſs.
2. The Portugal Bugloſs.
3. The Cretan Bugloſs.

The firſt two of theſe ſpecies will ſometimes continue in dry, ſandy ſoils, longer than two years; though in a rich, luxuriant ſituation, they will ſometimes flower and die off the firſt ſeaſon. In general, however, they are in their full glory the ſecond year after ſowing, and they ſeldom ſurvive the winter following; ſo that the beſt way will be to view them in the light of Biennials only, to which they are by Nature more inclined. The Cretan Bugloſs is an annual.

The Common Bugloſs deſcribed. 1. The Common Bugloſs will grow to about two feet high. The leaves are oblong, ſpear-ſhaped, rough, hairy, grow irregularly on the branches, and are of a bluiſh-green colour. The ſtalk is round, branching, rough, and hairy. The flowers ornament the top of it, growing from the ſides in imbricated ſpikes. Of this ſpecies there are the following varieties:

Varieties

The Blue Bugloſs.
The White Bugloſs.
The Red Bugloſs.
The Purple Bugloſs.

The Blue Bugloſs is ſo well known as to cauſe it to be neglected in our gardens; nevertheleſs, it is a very beautiful plant. The other varieties, not being common, have a greater claim to a place in our collection of Biennials; and for this purpoſe the ſeeds of the different ſorts ſhould be carefully collected and kept ſeparate, that there may be a greater chance of having the ſame coloured flowers appear again from the ſame ſeeds.

Deſcription of Portugal 2. Portugal Bugloſs hardly ever ſurvives the ſecond year, let the ſituation be what it will, and conſequently has a better title to the appellation of Biennial than the former. It will grow to about two feet high. The leaves are very narrow, rough, hairy, waved, and indented. The ſtalk is rough, hairy, and branching. The flowers are produced from the ſides of the branches in imbricated ſpikes; they are of a fine blue colour, will be in blow in July, and are ſucceeded by inflated calyces containing the ſeeds.

and Cretan Bugloſs. 3. Cretan Bugloſs. This is a low annual. The branches are ſeldom longer than half a foot, are ſlender, and lie on the ground. The leaves are ſmall, ſpear-ſhaped, warted, and half ſurround the ſtalk with their baſe. The flowers are collected into ſmall heads at the tops of the ſtalks, are of a bright-blue colour, and will afford plenty of ſeeds for a ſucceſſion.

Method of propagation. All theſe ſorts ſhould be ſown in the places where they are to flower; for they do not bear tranſplanting well. After the plants are come up, nothing more is to be done than to thin them to proper diſtances, and keep them clean from weeds. They will flower and ſcatter their ſeeds, which will grow and keep up the ſucceſſion without further trouble.

Titles. 1. The Common Bugloſs is titled, *Anchuſa foliis lanceolatis, ſpicis imbricatis.* Caſpar Bauhine calls it, *Bugloſſum anguſtifolium majus*; and diſtinguiſhes another variety of it by the title, *Bugloſſum ſylveſtre majus nigrum.* It grows in fields, and by the ſides of high-ways, in moſt parts of Europe. Officinale.

2. Portugal Bugloſs is titled, *Anchuſa ſtrigoſa, foliis linearibus dentatis, pedicellis bracteâ minoribus, calycibus fructiferis inflatis.* Tournefort calls it, *Bugloſſum Luſitanicum echii folio undulato*; and Barrelier, *Anchuſa, anguſtis dentatis foliis, Hiſpanica.* It grows naturally in the meadows of Spain and Portugal. Undulata.

CHAP. XXI.

ANDRANCHE, BASTARD ORPINE,

Introduction. THERE are only two ſpecies of this genus yet known, one of which is a tree, and the other a herb. The herbaceous ſpecies will ſometimes continue three years; but as it generally goes off the ſecond year after it has flowered ſtrong, its lot ſeems with greater propriety to be among the Biennials than any-where elſe. It is uſually called Baſtard Trailing Orpine. The title is one part of the deſcription, and conveys ſome idea of the plant itſelf, as it repreſents to the imagination a low, procumbent plant. Theſe trailing ſtalks are garniſhed with ſmall, oval, ſmooth leaves. The flowers are produced from the upper parts of them, are of a white colour, will be in blow in June or July, and their ſeeds ripen in the autumn.

Baſtard Trailing Orpine deſcribed.

Culture. The culture of this plant is by the ſeeds. Sow them in the autumn after they are ripe, and they will come up ſoon, and will frequently be forward enough to flower the ſummer following. But in order to have ſtrong plants, ſow the ſeeds in the ſpring; and if the weather proves dry, give the beds frequent waterings before the plants come up; for this will cauſe them to germinate. After that, where they come up too cloſe, thin them to proper diſtances, and that is all the trouble they will require. Theſe plants will flower ſtrong the ſummer following; and after they have perfected their ſeeds, the greateſt part of them will die away: So that, to keep up the ſucceſſion, the ſeeds ought to be ſown every year.

Titles. Telephiodes. The title of this Orpine is, *Andranche procumbens herbacea.* In the *Hortus Cliffort.* it is called, ſimply, *Andranche.* Tournefort, Dillenius, and Buxbaum term it, *Telephoides Græcum humifuſum, flore albo.* Boccone calls it, *Glaux procumbens, myrti Tirentini folio.* It grows naturally in Italy, Greece, and Media.

Claſs and order in the Linnæan ſyſtem. *Andranche* is of the claſs and order *Monoecia Gynandria*; and the characters are,

I. Male Flowers.

The characters.

1. Calyx is a five-leaved, equal, withering perianthium.

2. Corolla conſiſts of five emarginated, ſlender petals, ſhorter than the calyx. The nectarium is ſituated at the bottom of the petals, and is compoſed of five ſemibifid, ſmall, herbaceous leaves.

3. Stamina are five ſmall filaments joined at their baſe to the nectarium, with ſimple antheræ.

II. Female Flowers.

1. Calyx is an equal, five-leaved, permanent perianthium.

2. Corolla. There is none; but the nectarium is herbaceous, and compoſed of five ſmall, ſemibifid leaves, as in the male.

3. Pistillum conſiſts of a globoſe germen, and three ſlender, ſemibifid ſtyles, with globoſe ſtigmas.

4. Pericarpium is a globoſe, trilobate capſule of three cells.

5. Semina. The ſeeds are two, angular, roundiſh, and obtuſe.

C H A P. XXII.

ANDROSACE,

WHERE a general collection of plants is making, the following ſpecies of this genus will be ſought for, viz.

Species.

1. The Common Annual *Androſace.*
2. The Elongated *Androſace.*
3. The Northern *Androſace.*

Deſcription of the Common Annual, 1. The Common Annual *Androſace* is a low-growing plant, and of but little beauty. The leaves are oval, ribbed, hairy, ſpread upon the ground, have their edges a little indented, and are of a pale-green colour. The ſtalks, which will hardly grow a foot high, are naked, round, and hairy. At the top grow the flowers in an umbel; they are ſmall and white, have very large perianthiums, will be in blow in April and May, and produce good ſeeds in June.

Elongated, 2. The Elongated *Androſace.* This ſpecies hath many indented, ribbed, hairy, oval, ſpreading leaves, which are of a pale-green colour. The ſtalks are naked, round, and about five inches high. At the top ſtand the flowers on exceeding long pedicles: Theſe are uſually as long as the ſtalk itſelf, and each ſupports a large perianthium, containing a ſmall white flower, which will be in blow in April and May. The ſeeds ripen in June.

and Northern Androſace. 3. Northern *Androſace* hath ſmooth, ſpear-ſhaped, indented, ſpreading leaves. The ſtalks are upright, naked, firm, and ſeldom grow higher than three or four inches. At the top ſtands the umbel; but the perianthiums of this ſpecies are angular, and not ſo long as the flower. The flowers are ſmall and white, will be in blow in April and May, and the ſeeds will ripen ſoon after.

Culture. The ſeeds of all theſe ſpecies ſhould be ſown ſoon after they are ripe. They will readily come up, and by the autumn become ſtrong plants, which will ſtand the winter, and flower early in the ſpring.

Titles. Maxima. 1. The Common *Androſace* is titled, *Androſace perianthiis fructuum maximis.* Van Royen calls it, *Androſace calycibus fructuum maximis.* Wachendorff, *Androſace foliis lanceolato-ovatis dentatis, calycibus corollâ longioribus*; Cammerarius, *Androſace altera*; and Caſpar Bauhine, *Alſine affinis androſace dicta major.* It grows naturally among the corn in Auſtria and Bohemia.

Elongata. 2. Elongated *Androſace* is titled, *Androſace corollis calyce brevioribus, pedicellis longiſſimis, foliis ſubdentatis.* It grows naturally in Auſtria.

Septentrionalis. 3. Northern *Androſace* is titled, *Androſace foliis lanceolatis dentatis glabris, perianthiis angulatis corollâ brevioribus.* Buxbaum terms it, *Androſace montana, flore minore.* Caſpar Bauhine makes three ſorts of it, and diſtinguiſhes them by, *Alſine verna, Alſine minor,* and *Alſine adfinis androſace dicta minor.* It grows naturally on the mountainous parts of Lapland and Ruſſia.

CHAP. XXIII.

ANDRYALA, DOWNY SOW-THISTLE.

The Entire-leaved Downy Sow-thiſtle deſcribed. THE Entire-leaved Downy Sow-thiſtle is the ſpecies for this place. It is a very moderate annual; and our Common Sow-thiſtle, were it as ſcarce a plant, might perhaps be thought to be equally as beautiful. They have a pretty effect, however, by their downy, ſilvery leaves, which are of an oval, oblong figure, and have their edges entire. The ſtalk will grow to upwards of a foot high: This alſo is very downy and branching, and the leaves ornament it here-and-there at certain diſtances. The flowers terminate the ſtalks in ſmall cluſters; they are of a yellow colour, much reſemble thoſe of our Common Sow-thiſtle, will be in blow in July, and afford plenty of ripe ſeeds in September.

Culture. By theſe ſeeds the plants may be raiſed in abundance. Sow them any-where in the ſpring in the places where they are deſigned to flower. Where they come up too cloſe, thin them to proper diſtances, and keep them clean from weeds; and they will require no further trouble until you gather the ſeeds for a ſucceſſion.

Titles. This ſpecies is titled, *Andryala foliis integris ovato-oblongis tomentoſis*. Caſpar Bauhine calls it, *Sonchus villoſus luteus major*; Dalechamp, *Sonchus lanatus*; and Ray, *Hieracium villoſum*. It grows naturally in France, Italy, Sicily, and Spain.

Integri=folia.

* * *

CHAP. XXIV.

ANTHEMIS, CHAMOMILE.

Introduction. THE perennial ſpecies of this genus have been given already: Thoſe, in general, with reſpect to their flowers, deſerve to be preferred before the annuals. The annual ſpecies, however, have their ſingularities; their flowers are not wholly deſtitute of beauty; and they cauſe variety in a garden. The Engliſh name that has been much uſed for theſe ſpecies is May-weed, and by this they are generally known. I ſhall, therefore, as uſual, call them,

Species.

1. The Common May-weed.
2. Stinking May-weed.
3. Italian May-weed.
4. Spaniſh May-weed.
5. Broad-leaved Portugal May-weed.
6. Chioan May-weed.
7. Ox-eye May-weed.
8. Annual *Aſtericus*.

Common May-weed. 1. The Common May-weed grows a weed all over our corn-fields, and ſhould be eradicated whenever we meet with it. It is too well known to need deſcription.

Stinking May-weed deſcribed. 2. Stinking May-weed. This ſpecies is eſteemed for the ſake of a variety of it with double flowers, and is worthy of a place in any garden. It riſes with an upright, round, ſtriated ſtalk to about a foot and a half high. The leaves are of a deep-green colour, and finely divided into a multitude of narrow ſegments. The flowers are produced from the ends of the branches in June; they are white, and in the variety very double and beautiful.

Culture. As this ſpecies never produces any ſeeds, it is to be continued by planting cuttings in pots in May, and placing them in a ſhady border all ſummer. They ſhould be removed into the green-houſe, or ſet under an hot-bed frame, all winter, and ſet abroad in the ſpring in order for flowering. This method muſt be practiſed every year, or the ſort will be loſt.

Deſcription of Italian, 3. Italian May-weed. This ſpecies grows wild in the corn-fields of Italy, as the firſt does in ours. It will grow to be a yard in height. The flowers reſemble thoſe of the Stinking May-weed; but they are larger, and the paleæ of them are ſtiff and pungent: They will be in blow in July, and produce good ſeeds in the autumn.

Spaniſh, 4. Spaniſh May-weed grows common among the corn in Italy, Portugal, and Spain. It riſes with an upright, ſtriated, branching ſtalk to near a yard high. The leaves are much divided, and conſiſt of numerous ſharp ſpines. The flowers are numerous, large, white, will be in blow in June and July, and the ſeeds ripen ſoon after.

Broad-leaved, 5. Broad-leaved Portugal May-weed. The leaves are ſingle, but are deeply indented or cut in a manner ſo as to reſemble a pinnated leaf; they are of a thickiſh conſiſtence, and have a whitiſh look. The ſtalk is branching, and contains many flowers mixed with white and yellow: They will be in blow in July, and their ſeeds ripen in September.

and Chioan May-weed. 6. Chioan May-weed. The leaves of this ſpecies are much divided. The ſtalk riſes only about a foot high, and divides into many ſpreading branches. The flowers are produced on naked footſtalks that are a little hairy; they are of a white colour, will be in blow in July, and will often continue flowering all the ſummer.

Ox-eye May-weed

7. Ox-eye May-weed. The ſtalk is very ramoſe, purpliſh, and grows to near a yard high. The leaves are triply-pinnated, ſetaceous, and downy. The flowers are of great variety; for there is the White, the Yellow, the White and Red, the White and Purple, and the Full Double: They terminate the branches ſingly on thickiſh foot-ſtalks; they will be in blow from the middle to the end of ſummer, and produce ripe ſeeds in the autumn.

and Annual Aſtericus deſcribed.

8. Annual *Aſtericus*. This riſes with an upright ſtalk to the height of about two feet. This is terminated by a flower of ſome ſingularity: From the calyx iſſue two or three horizontal foot-ſtalks, about two inches long, ſupporting each a flower of the ſame form with the mother-flower, though ſmaller. The flowers will be in blow in July, and in favourable ſeaſons will produce ripe ſeeds in the autumn.

Culture.

To have theſe ſorts flower early in the ſummer, the ſeeds ſhould be ſown in the autumn, ſoon after they are ripe; for if the buſineſs is deferred until the ſpring, they will not always perfect their ſeeds, unleſs the plants are brought forward by a hotbed. To continue the ſucceſſion of flowering, ſow them at both ſeaſons, and you will have flowers from one or other of them until the froſt ſtops them.

The Double flowers, or ſuch as are beautifully ſtained with red or purple, and are poſſeſſed of any extraordinary properties, may be continued in their reſpective varieties, by planting the cuttings in pots, and houſing them in the winter. Theſe ſhould be ſet out in a good, rich, light border, in the ſpring; and when the ſtalks are about three-parts grown, cuttings ſhould be taken from them to continue the ſucceſſion.

Titles.

Arvensis. 1. The Common May-weed is titled, *Anthemis receptaculis conicis, paleis ſetaceis: ſeminibus coronato-marginatis.* Caſpar Bauhine calls it, *Chamæmelum inodorum*; others, *Anthemis arvenſis.* It grows naturally among corn in moſt parts of Europe.

Cotula. 2. Stinking May-weed is, *Anthemis receptaculis conicis: paleis ſetaceis, ſeminibus nudis.* Van Royen calls it, *Anthemis foliis pinnato-decompoſitis: laciniis linearibus, caulibus diffuſis, radice annuâ*; Caſpar Bauhine, *Chamæmelum fœtidum*; John Bauhine, *Chamæmelum fœtidum, ſive cotula fœtida.* It grows common in moſt parts of Europe.

3. Italian Mayweed is titled, *Anthemis florum paleis rigidis pungentibus.* Micheli calls it, *Anthemis Italica arvenſis annua major vulgatiſſima, flore maximo: diſco pungente*; Moriſon, *Chamæmelum annuum ramoſum, cotulæ fœtidæ floribus amplioribus, capitulis ſpinoſis*; and Plukenet, *Bellis montana, tanaceti foliis, caule ſingulari, annua.* It grows common in the corn-fields of Italy. Cota.

4. Spaniſh Mayweed is titled, *Anthemis erecta foliorum apicibus ſubſpinoſis.* Sauvages calls it, *Anthemis foliorum ſerraturis ſetaceis, radiis florum albis*; John Bauhine, *Chamæmelo affine buphthalmum Italicum ſegetum altiſſimum*; Caſpar Bauhine, *Chamæmelum leucanthemum Hiſpanicum, magno flore.* It grows naturally among the corn in Spain, Italy, and France. Altiſsima.

5. Broad-leaved Portugal Mayweed is titled, *Anthemis foliis ſimplicibus dentato-laciniatis.* Guettard calls it, *Anthemis foliis ſingularibus pinnato-dentatis*; Moriſon, *Chamæmelum annuum ramoſum, coronopi folio, flore mixto*; Breynius, *Chamæmelum Luſitanicum latifolium, ſive coronopi folio*; Plukenet, *Bellis pumila crenata agerati æmula, crenis bicornibus aſperiuſculis.* It grows naturally in Portugal, Italy, and France. Mixta.

6. Chioan May-weed is, *Anthemis foliis pinnatifidis laciniatis, pedunculis nudis ſubvilloſis.* It grows naturally in Chio. Chia.

7. Ox-eye May-weed is, *Anthemis caule ramoſo, foliis pubeſcentibus tripinnatis, calycibus villoſis pedunculatis.* Caſpar Bauhine calls it, *Buphthalmum cotulæ folio*; John Bauhine, *Buphthalmum tenuifolium, folio fere millefolii*; Breynius, *Buphthalmum Creticum, cotulæ facie*; Dalechamp, *Buphthalmum alterum penæ*; Cammerarius, *Buphthalmum flore purpuraſcente*; and Cluſius, *Buphthalmum Narbonenſe.* It grows naturally in France. Valentina.

8. Annual *Aſtericus* is, *Anthemis caule decompoſito, calycibus ramiferis.* Sloane calls it, *Aſtericus annuus trianthophorus Craſſas Arabibus dictus.* It grows naturally in Arabia. Arabica.

C H A P. XXV.

ANTHERICUM, SPIDER-WORT.

THIS genus affords us one ſpecies only for this place, which is called, Ethiopian Spider-wort.

The plant deſcribed.

The leaves are moderately long, narrow, taper, fleſhy, and a little flatted on the upper-ſide. The ſtalk is very low, ſeldom riſing more than two or three inches. The flowers grow in looſe ſpikes; their colour is yellow; they will be in blow in July; and the ſeeds ripen in the autumn.

Culture.

This ſort is propagated by ſowing of the ſeeds in a warm border of light freſh mould the firſt week in April; cover them with about a quarter of an inch of mould; and when the plants come up, if cold froſty winds ſhould happen, as they often do even until late in May, cover the beds with mats in the night. Where the plants come up too cloſe, thin them by drawing out the weakeſt, and let the others ſtand to flower; for they do not bear removing well. When all danger of froſt is over, let them enjoy the full benefit of ſun and air. If the ſeaſon ſhould prove very dry, give them now and then water; but this ſhould be done ſparingly, for the leaves are ſucculent, and a little will be ſufficient. About July they will ſhow their flowers, and in October you may gather good ſeeds for a ſucceſſion.

This ſpecies is titled, *Anthericum foliis carnoſis ſubulatis teretibus, ſcapo ſubracemo.* Wachendorff calls it, *Anthericum acaule, foliis ſetaceis caule anguſtioribus.* It grows naturally in Ethiopia. Annuum.

CHAP. XXVI.

ANTHYLLIS, KIDNEY-VETCH, or LADIES FINGER.

THERE are a few ſhort-lived ſpecies of this genus that are preſerved in none but botanic gardens, or in thoſe, exceeding few, where a general collection of plants is making. Theſe are,

Species.

1. The Quaternate-leaved Italian *Anthyllis*, or Bladder Pea.
2. The Spaniſh Unequally Pinnated-leaved *Anthyllis*.
3. The Spaniſh Trifoliate *Anthyllis*.

Deſcription of Italian,

1. Italian *Anthyllis*, or Bladder Pea. The branches are low, procumbent, and about a foot in length. The leaves grow by fours at each joint. The flowers come out from the ſides of the ſtalk in ſmall cluſters; their colour is a bright-yellow; but they have ſo large a ſwelling calyx that the ends of them do but juſt appear above it, which obſcures the figure they would otherwiſe make; they will be in blow in June and July, and the ſeeds ripen ſoon after.

Spaniſh Unequally Pinnated-leaved,

2. Spaniſh Unequally Pinnated-leaved *Anthyllis*. This is a low, branching plant. The leaves are pinnated, and each conſiſts of five or ſeven oval, ſpear-ſhaped lobes; they are hoary, the end one is the largeſt, and they grow on long hairy footſtalks from the wings of the branches. The flowers are produced from the ſides and ends of the branches in ſingle heads, and have large inflated calyces; their colour is yellow; they will be in blow in June; and the ſeeds ripen ſoon after.

This plant, in ſome ſituations, will continue two or three years.

and Spaniſh Trifoliate Anthyllis

3. Spaniſh Trifoliate *Anthyllis*. The ſtalks are branching, hairy, and lie on the ground. The leaves are ternate, and each is compoſed of three cuneiforme lobes. The flowers are produced from the ſides of the branches in ſmall heads; they have long, priſmatick, hairy calyces; their colour is yellow; they will be in blow in July, and the ſeeds ripen in the autumn.

This plant will ſometimes laſt two or three years.

Culture.

The ſeeds of all theſe ſorts ſhould be ſown in the autumn, in order to cauſe them to flower early the ſummer following; after that, nothing more is to be done than in the ſpring to thin them where they come up too cloſe; and having once obtained a ſtock of theſe plants, they will ſow themſelves, and come up without any trouble or care, except thinning them to proper diſtances as before.

Titles.

1. The Quaternate leaved *Anthyllis* is titled, *Anthyllis herbacea, foliis quaterno-pinnatis, floribus lateralibus.* In the *Hortus Cliffort.* it is termed, *Anthyllis foliis quinato-pinnatis inæqualibus, floribus lateralibus.* Caſpar Bauhine calls it, *Lotus pentaphyllos veſicaria*; and Cammerarius, *Trifolium halicacabum.* It grows naturally among corn in Italy, Sicily, and France. Tetraphylla.

2. Spaniſh Unequally Pinnated-leaved *Anthyllis* is titled, *Anthyllis herbacea, foliis pinnatis inæqualibus, capitulis ſolitariis.* It grows naturally in Spain. Cornicina.

3. Spaniſh Trifoliate *Anthyllis* is titled, *Anthyllis herbacea, foliis tripartitis, calycibus priſmaticis faſciculatis longitudine leguminum.* Caſpar Bauhine calls it, *Lotus pentaphyllos, ſiliquis curvis pedes corvinos referentibus*; and Dodonæus, *Coronopus ex cod. Cæſareo.* It grows naturally in Spain. Lotoides.

CHAP. XXVII.

ANTIRRHINUM, SNAP-DRAGON, or CALVES SNOUT.

IT has been obſerved, that the *Aſarina*, *Linaria*, and *Elatine*, of old Botaniſts are included in the genus *Antirrhinum*; ſo that the Gardener now, under this head, muſt look for the Perennial and Annual ſpecies of Baſtard *Aſarum*, Snap-dragon, Toad-flax, *Elatine*, &c. The Annual ſpecies of this genus are,

Species.

1. *Aſarina*, or Baſtard *Aſarum*.
2. *Elatine*, or Sharp-pointed Fluellin.
3. Round-leaved Fluellin.
4. Little Field Snap-dragon.
5. Greater Field Snap-dragon.
6. White-flowered Erect *Antirrhinum*.
7. Three-leaved Toad-flax.
8. Corymbous-flowered Blue Toad-flax.
9. Sicilian Toad-flax.
10. Succulent-leaved Toad-flax.
11. Rough Spaniſh Toad-flax.
12. *Geniſta*-leaved Toad-flax.
13. Daiſy-leaved Toad flax.

Deſcription of Aſarina,

1. *Aſarina*, or Baſtard *Aſarum*, is a plant of very little ſhow or beauty, and hardly merits admittance into a garden. The ſtalks are weak, ſlender, trailing, and about a foot long. The leaves are heart-ſhaped, their edges indented, and they are placed oppoſite by pairs on the branches. The flowers are produced from the wings of the leaves; they have a long tube, and are of a very bad purple colour, with a greeniſh bottom; they flower in June and July, and the ſeeds ripen in the autumn.

and Sharp-pointed Fluellin.

2. Sharp-pointed Fluellin, or *Elatine*. This hath many ſlender, trailing, hairy branches about a foot and a half long. The leaves are haſtated, ſharply pointed, and of a greyiſh colour. The flowers are produced from the ſides of the ſtalks; the upper-lip is yellow, and the under one purple; they will be in blow in June and July, and the ſeeds ripen in the autumn.

Its variety.

There is a variety of this ſpecies with blue flowers.

Round-leaved Fluellin,

3. Round-leaved Fluellin. This hath ſeveral trailing, ſlender, hairy ſtalks, about a foot and a half long. The leaves are oval, hairy, greyiſh, and placed alternately on the branches. The flowers grow from the ſides of the ſtalks; their upper-lip is yellow, and the under purple; they will be in blow in June and July, and the ſeeds ripen in the autumn.

Little,

4. Little Field Snap-dragon. This plant grows common in many of our corn-fields, and is ſeldom admitted into gardens. The ſtalk is very branching, and diffuſe. The leaves are ſpear-ſhaped, obtuſe, and are for the moſt part placed alternately on the branches. The flowers are like thoſe of the Snap-dragon; they will be in blow in June and July, and ripen their ſeeds in September.

and Greater Field Snap-dragon deſcribed.

5. Greater Field Snap-dragon has not much better pretenſions to a garden than the former, and is a weed in ſeveral of our corn-fields. The ſtalk is branching, and adorned with ſpear-ſhaped leaves; their edges are entire, and they are placed on ſhort footſtalks on the branches. The flowers are of the Snap-dragon kind, but the corolla is very ſhort, and the cup long; they grow in kind of ſpikes from the ends of the branches; they will be in blow in June and July, and the ſeeds ripen in September.

Culture.

The culture of theſe ſorts is eaſy. Sow the ſeeds any where, and they will grow and afterwards ſcatter themſelves, and come up as weeds; ſo that as they appear, they ſhould be hoed down, leaving a few plants only for obſervation.

White-flowered Erect Antirrhinum

6. White-flowered Erect *Antirrhinum*. This riſes with an erect ſtalk to about a foot and a half high. The leaves are narrow, ſpear-ſhaped, and grow alternately on the branches. The flowers are produced ſingly from the ſides of the branches; their colour is white, and they are ſometimes ſweetly variegated with purple or violet; they will be in blow in July, and ripen their ſeeds in the autumn.

Three-leaved,

7. Three-leaved Toad-flax. Of this there are two varieties, the Yellow and the Blue-flowering-leaved Toad-flax. The ſtalk is erect, branching, and will grow to near two feet high. The leaves are of an oval figure, ſmooth, of a greyiſh colour, and for the moſt part placed by threes at the joints, though there will be a few that grow by pairs only. The flowers terminate the tops of the branches in ſhort ſpikes; they are of one or other of the above colours; they will be in blow in July, and ripen their ſeeds in September.

Corymbous flowering Blue,

8. Corymbous flowering Blue Toad-flax. This hath a ſlender branching ſtalk, which will grow to about a foot in height. The leaves are very narrow, and grow alternately on the ſtalks. The flowers terminate the branches in ſmall heads; they have long ſpurs, and are of a purple-violet colour; they will be in blow in July, and their ſeeds ripen in the autumn.

Sicilian,

9. Sicilian Toad-flax. This hath many ſlender ſtalks, about a foot long. The leaves are narrow, obtuſe, and grow by fives at the joints, though higher they are ſometimes by pairs, and often ſingle. The flowers terminate the branches in ſmall heads; there is the Deep-yellow and Cream-coloured ſort; they will be in blow in July, and ripen their ſeeds in the autumn.

Succulent leaved,

10. Succulent-leaved Toad-flax. This riſes with ſeveral erect branching ſtalks to about a foot and a half high. The leaves are narrow, ſubulated, fleſhy, and grow uſually by fours at the joints. The flowers terminate the branches in looſe ſpikes; they are yellow, and often ſtriped with blue; they will be in blow in July, and ripen their ſeeds in the autumn.

and Rough Spaniſh Toad flax deſcribed.

11. Rough Spaniſh Toad-flax. The ſtalk is ſingle, and will grow to about a foot and a half high. The leaves are very hairy, ſeſſile, ſpear-ſhaped, and placed alternately on the ſtalks. The flowers terminate the branches in cloſe ſpikes; they are large, of a pale-yellow ſtriped with a bright gold colour; they will be in blow in July, and ripen their ſeeds in the autumn.

Geniſta 12. *Geniſta*-leaved Toad-flax. This is a biennial, and will riſe with an upright branching ſtalk to upwards of a yard in height. The leaves are ſmooth, ſpear-ſhaped, acutely-pointed, greyiſh, and placed alternately on the branches. The flowers terminate the branches in kind of panicles; they are of a bright-yellow colour, will be in blow in June and July, and produce good ſeeds in the autumn.

and Daiſy-leaved Toad-flax deſcribed. 13. Daiſy-leaved Toad-flax. This is a biennial, and about a foot in height. The leaves are oblong, ſerrated, narrow at the baſe, but encreaſe in width upwards, and are rounded at the extremity, like thoſe of the Daiſy. The ſtalks are garniſhed with leaves at the joints; they are ſmall, and thoſe that grow near the top have their edges entire. The flowers are produced at the ends of the ſtalks in ſpikes; they are white, and have an agreeable odour: they will be in blow in June, and their ſeeds ripen in the autumn.

Culture. The ſeeds of this laſt ſort, although it is a biennial, ſhould be ſown in the autumn, ſoon after they are ripe; for if they are kept until the ſpring, they ſeldom grow that year. The other biennials may be deferred until the ſpring. It will be proper to ſow them where the plants are to remain; thin them where they come up too cloſe; and the ſummer following they will flower.

The other ſorts may be ſown in the autumn, or the ſpring; but the autumn is to be preferred, as ſuch plants will always flower ſtronger and earlier than thoſe raiſed from ſeeds ſown in the ſpring.

There is hardly any of theſe ſorts, after having once obtained a ſtock, that will not ſow themſelves, and come up like weeds, if the ſeeds are permitted to ſcatter; ſo that nothing elſe is to be done than to leave any deſired number thinned to proper diſtances.

Titles. Aſarina 1. *Aſarina*, or Baſtard *Aſarum*, is titled, *Antirrhinum foliis oppoſitis cordatis crenatis, corollis ecaudatis, caulibus procumbentibus.* Lobel calls it, *Aſarina, ſive hederula ſaxatilis*; Caſpar Bauhine, *Hedera ſaxatilis, magno flore.* It grows naturally near Geneva.

Elatine 2. *Elatine*, or Sharp-pointed Fluellin, is, *Antirrhinum foliis haſtatis alternis, caulibus procumbentibus.* Caſpar Bauhine calls it, *Elatine folio acuminato in baſi auriculato, flore luteo*; and Cammerarius, *Elatine.* It grows naturally in corn-fields in England, Italy, France, and Germany.

Spurium, 3. Round-leaved Fluellin is, *Antirrhinum foliis ovatis alternis, caulibus procumbentibus.* Caſpar Bauhine calls it, *Elatine folio ſubrotundo*; and Dodonæus, *Veronica fæmina.* It grows common on arable land in England, Italy, France, and Germany.

Minus, 4. Little Field Snap-dragon is, *Antirrhinum foliis pleriſque alternis lanceolatis obtuſis, caule ramoſiſſimo diffuſo.* Caſpar Bauhine calls it, *Antirrhinum arvenſe minus*; and Cammerarius, *Antirrhinum tertium.* It grows naturally on ploughed land, by the ſide of paths, &c. in England, and moſt parts of Europe.

5. Greater Field Snap-dragon is, *Antirrhinum corollis ecaudatis, floribus ſubſpicatis, calycibus digitatis corollâ longioribus.* In the *Hortus Cliffort.* it is termed, *Antirrhinum foliis lanceolatis petiolatis, calycibus flores ſuperantibus.* Caſpar Bauhine calls it, *Antirrhinum arvenſe majus*; Dodonæus, *Antirrhinum ſylveſtre phyteuma.* It grows naturally on arable land in England, and moſt parts of Europe. Orontium.

6. White-flowering Erect *Antirrhinum* is, *Antirrhinum foliis lineari-lanceolatis alternis, floribus racemoſis, calycibus corollâ longioribus.* Moriſon calls it, *Linaria chalepenſis minor erecta, flore albo, lineis violaceis*; Ray, *Linaria annua anguſtifolia, floſculis albis longis caudatis.* It is a native of Italy. Chalepense.

7. Three-leaved Toad-flax is, *Antirrhinum foliis ternis ovatis.* Caſpar Bauhine calls one ſort of it, *Linaria triphylla minor lutea*; another, *Linaria triphylla cærulea*; and Cammerarius, *Linaria Hiſpanica.* It grows naturally about Valentia, and in many parts of Sicily and Spain. Triphyllum.

8. Corymbous flowering Blue Toad-flax is, *Antirrhinum foliis caulinis linearibus alternis: radicalibus lanceolatis ternis, floribus corymboſis.* Sauvages terms it, *Antirrhinum foliis ad caulem linearibus, ad radicem ſepe ternis*; Vaillant, *Linaria annua purpureo-violacea, calcaribus longis, foliis imis rotundioribus*; Lobel, *Linaria cærulea minor*; and John Bauhine, *Linaria cærulea calcaribus longis.* It grows naturally in France and Italy. Pelisserianum.

9. Sicilian Toad-flax is, *Antirrhinum foliis quinis linearibus, floribus capitatis.* Boccone calls it, *Linaria Sicula multicaulis, molliginis folio.* It grows naturally in Sicily, and ſome parts of the Eaſt. Multicaule.

10. Succulent-leaved Toad-flax is, *Antirrhinum foliis quaternis ſubulatis carnoſis caulibus erectis, floribus ſpicatis.* Haller calls it, *Linaria foliis confertis, linearibus carnoſis*; Buxbaum, *Linaria maritima, foliis ſucculentis*; and Caſpar Bauhine, *Linaria foliis carnoſis cinereis.* It grows naturally in ſeveral of the ſouthern parts of Europe, and the Eaſt. Glaucum.

11. Rough-leaved Spaniſh Toad-flax is, *Antirrhinum foliis lanceolatis hirtis alternis, floribus ſpicatis: foliolo calycino ſupremo maximo.* It is a native of Spain Hirtum.

12. *Geniſta*-leaved Toad-flax is, *Antirrhinum foliis lanceolatis acuminatis, paniculâ virgatâ flexuoſâ.* Herman calls it, *Linaria geniſtæ folio glauco, flore luteo*; Caſpar Bauhine, *Linaria flore pallido: rictu aureo*; and Cluſius, *Linaria Pannonica.* It grows naturally in Siberia and the Lower Auſtria. Genistifolium.

13. Daiſy-leaved Toad-flax is, *Antirrhinum foliis radicalibus oblongis ſerratis, corollis calcaratis patulis.* Sauvages calls it, *Antirrhinum foliis imis ſpathulatis, ſummis digitatis*; Caſpar Bauhine, *Linaria bellidis folio*; Dodonæus, *Linaria odorata*; and Miller, *Dodartia foliis radicalibus oblongo-ovatis ſerratis, caulinis linearibus integerrimis, floribus ſpicatis terminalibus.* It grows naturally in France, Italy, &c. Bellidifolium.

CHAP. XXVIII.

APHANES, PARSLEY PIERT.

THERE is only one ſpecies of this genus, called Parſley Piert.

The plant deſcribed.

The root is ſmall, yellowiſh, ſimple, and furniſhed with ſeveral fibres. The ſtalks are round, hairy, partly procumbent, and three or four inches long. The leaves are roundiſh, but divided into two or three parts, ſerrated on their edges, hairy, of a grey or whitiſh-green colour, and ſtand thick upon the ſtalks. The flowers come out in cluſters from the ſides of the ſtalks, are of a greeniſh-white colour, appear in May and June, and the ſeeds ripen in July.

Medicinal properties of it.

The diſtilled water of this plant is reckoned admirable for the ſtone or gravel.

It is extremely common in our corn-fields, and is never cultivated.

Titles.

Arvensis.

Being the only ſpecies of this genus yet known, it is named, ſimply, *Aphanes*. Columna calls it, *Alchemilla minima montana*; Caſpar Bauhine, *Chærophyllo nonnihil ſimilis*; Lobel and Gerard, *Percepies Anglorum*; and Parkinſon, *Polygonum ſelinoides.* It grows naturally in corn-fields, dry paſtures, ſandy and gravelly places, in moſt countries of Europe and in the Eaſt.

Claſs and order in the Linnæan ſyſtem.

Aphanes is of the claſs and order *Tetrandria Digynia*; and the characters are,

The characters.

1. CALYX is a monophyllous, tubular, permanent perianthium, divided at the brim into eight ſegments, which are alternately ſmaller.

2. COROLLA. There is none.

3. STAMINA are four ſmall, erect, awl-ſhaped filaments, ſituated in the mouth of the calyx, having roundiſh antheræ.

4. PISTILLUM conſiſts of two oval germens, with filiforme ſtyles the length of the ſtamina inſerted at their baſe, crowned by capitated ſtigmas.

5. PERICARPIUM. There is none. The calyx cloſes at the top, and contains the ſeeds.

6. SEMINA. The ſeeds are two, oval, acuminated, compreſſed, and the length of the ſtyle.

CHAP. XXIX.

ARACHIS, GROUND NUT.

THERE is only one ſpecies of this genus, called, the Ground Nut.

The plant deſcribed.

The ſtalks are ſquare, hairy, branching, a foot and a half long, and lie on the ground. The leaves are four at a joint, moderately large, and hoary underneath. The flowers come out ſingly from the wings of the leaves on footſtalks; they are of a yellow colour, appear in July and Auguſt; and after they are faded, the young pods bury themſelves in the earth when they come to maturity, and afford ripe ſeeds for a ſucceſſion.

The nuts of theſe ſpecies are roaſted and uſed as chocolate in America. It is raiſed here by ſowing

Culture.

the ſeeds on a hotbed in the ſpring; and when the plants come up, they muſt be thinned where they are too cloſe, and meet with the tendereſt treatment until all danger from cold weather is over. They muſt have air in proportion to the heat of the ſeaſon, be frequently watered, and about July or early in Auguſt they will exhibit their bloom, and the pods will contain ripe ſeeds in the autumn, which muſt be ſought for in the earth, otherwiſe very few of them will be found.

Titles.

Hypogæa.

There being no other ſpecies of this genus, it is named ſimply, *Arachis*. Plumier calls it, *Arachidna quadrifolia villoſa, flore luteo*; Plukenet, *Senna tetraphylla, ſ. abſi congener hirſuta Maderaſpatenſis, folliculos ſub terrâ condens*; and Rumphius, *Chamæbalanus Japonica*. It grows naturally in Peru and the Braſils.

Claſs and order in the Linnæan ſyſtem.

Arachis is of the claſs and order *Diadelphia Decandria*; and the characters are,

The characters.

1. CALYX is a perianthium opening in two parts. The upper-lip is oval and ſemitrifid; the lower-lip is ſpear-ſhaped, concave, acute, and a little longer than the other.

2. COROLLA is papilionaceous. The vexillum is roundiſh, deflexed, plane, large, emarginated, and longer than the calyx; the alæ are open, nearly oval, and ſhorter than the vexillum; the carina is awl-ſhaped, incurved, and the length of the calyx.

3. STAMINA are diadelphous awl-ſhaped filaments the length of the carina, having antheræ, which are alternately round and oblong.

4. PISTILLUM conſiſts of an oblong germen, an awl-ſhaped riſing ſtyle the length of the germen, and a ſimple ſtigma.

5. PERICARPIUM is an oval, oblong, taper, coriaceous, venoſe, reticulated pod, containing one cell.

6. SEMINA. The ſeeds are two, oblong, obtuſe, gibbous, and truncated on one ſide.

CHAP. XXX.

ARCTIUM, BURDOCK.

THERE is not a more diſagreeable weed that can fall into a garden, or a plant that is more forbidding or troubleſome in the field, than the Burdock. It affords a ſingular variety, called, The Netted Burdock.

The plant deſcribed.

The leaves of this ſpecies are large, heart-ſhaped, and white on the under-ſide. The flowers are collected into heads; their colour is a bright-red, but in this their chief ſingularity conſiſts. Theſe heads are covered with a very fine down, in the form of net-work, admirably wrought. When the flowers are paſt, the ſeeds will ripen and ſow themſelves, like thoſe of the Common Burdock, to which this variety belongs.

Method of propagating it.

A plant or two only of this ſort ought to be admitted into a garden for variety and obſervation. For this purpoſe let a few ſeeds be ſown in the worſt part of the garden. If you chuſe more than a plant or two, thin them to two feet diſtance, and the next ſummer they will flower ſtrong, and diſplay their beautiful downy net-work over their heads. After they have perfected their ſeeds the plants die, and freſh ones will ariſe from ſcattered ſeeds, which muſt be always hoed down when they come up too cloſe, or in improper places.

Titles.

Lappa.

Our Common Burdock is titled, *Arctium foliis cordatis inermibus petiolatis.* Caſpar Bauhine calls it, *Lappa major montana, capitulis tomentoſis*; alſo, *Lappa major, ſive arctium Dioſcoridis*; Dodonæus, *Bardana, ſive lappa major*; and Cammerarius, *Perſonata.* It grows common all over Europe; but the Netted Burdock is very ſcarce, as it is not a native of England, but was brought to us from the Appennine mountains, where it naturally grows.

Claſs and order in the Linnæan ſyſtem. The characters.

Arctium is of the claſs and order *Syngeneſia Polygamia Æqualis*; and the characters are,

1. CALYX. The common calyx is globoſe, and imbricated. The ſcales are ſpear-ſhaped, and end in long ſubulated ſpines, which are reflexed at the point.

2. COROLLA. The compound flower is tubulous, and uniform. The tube of each floret is long, and ſlender; the limb is oval, and divided into five narrow equal ſegments.

3. STAMINA. The filaments are five in number; they are very ſhort, narrow, and have a cylindrical tubulous anthera the length of the corolla, and indented in five parts.

4. PISTILLUM conſiſts of an oblong germen that is hairy at the point, a filiforme ſtyle longer than the ſtamina, and a bifid, reflexed ſtigma.

5. PERICARPIUM. There is none.

6. SEMEN. The ſeed is ſingle, pyramidical, angular, and crowned with a ſhort down.

* * *

CHAP. XXXI.

ARCTOTIS.

Deſcription of the plant.

THE annual *Arctotis* has a thick, tender, herbaceous ſtalk, adorned with large, hoary, winged leaves. The flower is radiated, and compoſed of ſeveral hermaphrodite and female flowers; the rays are finely diſpoſed, and they are deeply cut into three parts; they will be in blow in Auguſt, and in October will produce good ſeeds for a ſucceſſion. Theſe ſeeds have ſo very much the reſemblance of thoſe of the *Anemone*, as to occaſion this genus being formerly called *Anemonoſpermos.*

Method of raiſing it.

The culture of this annual is very eaſy. The plants will riſe very well, flower, and perfect their ſeeds, if theſe are ſown in a good rich moiſt border, in April; but to have them forward, the beſt way will be to give them the help of a moderate warmth of dung. Let this be done the latter end of March, all the while giving them as much air as poſſible, and water in plenty, for they require it. With this management they will ſoon grow to be good ſtrong plants, and ſhould be planted out. Wait, nevertheleſs, for a moiſt day; or if the weather ſeems to be ſet-in for dry, in an evening plant them out where they are to remain. Frequently give them water, and they will flower early, and nevertheleſs continue to exhibit their bloom until the froſt ſtops them.

Titles.

Tristis.

This ſpecies is titled, *Arctotis floſculis radiantibus vicenis tripartitis.* Van Royen calls it, *Arctotis foliis*

foliis pinnatifidis, caule herbaceo, petalis radii profunde trifidis; and Breynius, *Anemonoſpermos Afra, foliis et facie taraxaci incanis.* It grows naturally in Ethiopia.

Claſs and order in the Linnæan ſyſtem. The characters.

Arctotis is of the claſs and order *Syngeneſia Polygamia Neceſſaria*; and the characters are,

1. CALYX. The common calyx is round, and imbricated. The ſcales on the lower-part are looſe, and ſubulated; thoſe of the middle are oval, and the upper ones oblong, rounded, and hollow.

2. COROLLA is radiated. The hermaphrodite flowers in the diſk are numerous; each of them is infundibuliform, and divided at the top into five reflexed, equal ſegments.

The female flowers occupy the border; they are tongue-ſhaped, long, about twenty in number, have a ſhort tubular baſe, and are ſlightly indented in three parts at the top.

3. STAMINA of the hermaphrodite flowers are five very ſhort capillary filaments, whoſe antheræ coaleſce, and form a cylinder the length of the florets, and are indented in five parts.

3. PISTILLUM of the hermaphrodite flowers conſiſts of a germen that is hardly diſcernible, a cylindrical ſtyle that is rather larger than the corolla, and a ſimple ſtigma.

The piſtillum of the female flowers conſiſts of an oval, three-cornered, hairy germen crowned with down, a filiforme ſtyle, and two oval, oblong, thickiſh, erect ſtigmas.

4. PERICARPIUM. There is none.

6. SEMINA. The hermaphrodite flowers never produce any ſeeds: They ſucceed the female flowers only. They are ſingle, roundiſh, hairy, and covered with down.

CHAP. XXXII.

ARENARIA.

THE Annuals of this genus are uſually called,

Species.

1. Purple-flowered Chickweed, or Spurrey.
2. Plantain-leaved Chick-weed.
3. The Leaſt Chickweed.
4. Middle, or Small Vernal *Arenaria.*

Deſcription of Purple-flowered Chickweed.

1. Purple-flowered Chickweed, or Spurrey. The ſtalks are numerous, round, jointed, procumbent, and five or ſix inches long. The leaves are ſlender, pointed, grow two at a joint; and at their baſe are ſituated membranaceous ſtipulæ, ſurrounding the ſtalk. The flowers come out from the ends and ſides of the branches; they are of a purple colour, appear in June and July, and the ſeeds ripen in Auguſt.

The principal varieties of this ſpecies are,

Varieties.

Sea Spurrey, with a ſmall blue flower.
Purple Sea Spurrey.
Blue Spurrey of the plains.

Plantain-leaved,

2. Plantain-leaved Chickweed. The ſtalks are ſlender, branching, and near a foot long. The leaves are oval, trinervous, acute, and grow on ſhort footſtalks. The flowers are ſmall, come out from the ends and ſides of the branches in May and June, and the ſeeds ripen in July and Auguſt.

and Leaſt Chickweed.

3. The Leaſt Chickweed. The ſtalks are numerous, ſlender, and about three or four inches long. The leaves are nearly oval, acute, ſeſſile, and grow oppoſite by pairs at the joints. The flowers are very ſmall, and of a white colour; they are chiefly in blow in May and June, tho' they frequently ſhew themſelves in the autumn, and all along afford plenty of ſeeds for a ſucceſſion.

Middle, or Small Vernal Arenaria deſcribed.

4. Middle, or Small Vernal *Arenaria.* The ſtalks are many, round, jointed, four or five inches long, downy, and clammy to the touch. The leaves are narrow, taper, acute, ſucculent, depreſſed on the upper-ſide, convex underneath, and have membranaceous ſtipulæ at the baſe. The flowers are white; they appear in April May, and June, and are ſucceeded by black ſeeds, which are ſurrounded by a white leafy border, and ripen in about a month after the flowers are fallen.

Propagation.

Whoever is deſirous of propagating theſe ſpecies, ſhould ſow the ſeeds ſoon after they are ripe, and they will then flower earlier the ſummer following. They chiefly like dry, light, ſandy places; though they will grow in any ſoil or ſituation, even on the tops of old walls, buildings, &c. When the plants come up, they ſhould be hoed down to a certain number, leaving only three or four of a ſort near each other, to be ready for obſervation; for thoſe will be enough of theſe kinds of plants. After they have flowered, and ripened their ſeeds, they will maintain the ſucceſſion by coming up, if the ſeeds are permitted to ſcatter, ſpontaneouſly all over the garden.

Titles.

Rubra.

1. Purple-flowered Chickweed, or Spurrey, is titled, *Arenaria foliis filiformibus, ſtipulis membranaceis vaginantibus.* Caſpar Bauhine calls it, *Alſine ſpergulæ facie minor, ſ. ſpergula minor, ſubcæruleo flore*; alſo, *Alſine ſpergulæ facie media*; Loeſel, *Polygonum foliis gramineis, ſpergulæ capitulis*; Van Royen, *Arenaria foliis linearibus longitudine internodiorum*; and Ray, *Spergula maritima noſtras.* It grows naturally in ſandy gravelly places; but the variety of it called Sea Spurrey is found chiefly on the ſea-ſhores in England, and moſt countries of Europe.

Trinervia.

2. Plantain-leaved Chickweed is, *Arenaria foliis ovatis acutis petiolatis nervoſis.* John Bauhine calls it, *Alſine plantaginis folio.* It grows naturally in woods and under hedges in England, and moſt parts of Europe.

Serpyllifolia.

3. The Leaſt Chickweed is, *Arenaria foliis ſubovatis acutis ſeſſilibus, corollis calyce brevioribus.*

Caſpar Bauhine calls it, *Alſine minor multicaulis*; and Fuchſius, *Alſine minor*. It grows naturally in gravelly, ſandy, and dry places, often on the tops of buildings, old walls, &c. in England, and moſt parts of Europe.

Media. 4. Middle *Arenaria* is, *Arenaria foliis linearibus carnoſis, ſtipulis membranaceis.* Dillenius calls it, *Spergula annua, ſemine foliaceo nigro, circulo membranaceo albo cincto*; and Tournefort, *Alſine ſpergulæ facie minima, ſeminibus marginatis.* It grows naturally in France and Germany.

CHAP. XXXIII.

ARGEMONE, PRICKLY POPPY.

THE Prickly Poppy is an annual held by ſome in much eſteem; by others it is thought of ſmall value, and not worth cultivating. Let the reader judge as he pleaſes; it certainly is a plant of ſome ſingularity, eaſy of culture, not deſtitute of beauty, adds to the collection, and cauſes variety; and as ſuch ſhould not be wanting in any gardens, where there are any pretenſions of ſhewing a good aſſortment of plants.

The plant deſcribed.

The Prickly Poppy riſes with a thick, round, creſted, prickly ſtalk, to about a foot or a foot and a half high. The leaves are large, oblong, very much jagged, and prickly at their edges; their colour is a light-green, and they are very much veined or ſtreaked with white. The flowers are very large, and of a fine yellow colour; each is compoſed of five roundiſh ſpreading petals. They will be in blow in July or Auguſt, and are ſucceeded by oval angular capſules, containing the ſeeds.

Culture.

In the culture of this plant nothing more is to be done than to ſow the ſeeds where they are to remain, any-how, in any place or ſituation. The ſpring is a good ſeaſon for the work; but in order to have them earlier, let ſome ſeeds be ſown in the autumn. When the plants come up too cloſe, they ſhould be thinned; and that, except weeding, is all the trouble they will call for. After having once flowered in a garden, plenty of young plants will always ariſe from ſcattered ſeeds, which will call for no trouble, except thinning as before.

Titles. Mexicana.

The Prickly Poppy is titled, *Argemone capſulis quinquevalvibus, foliis ſpinoſis.* In the *Hortus Cliff.* it is termed ſimply, *Argemone.* Caſpar Bauhine calls it, *Papaver ſpinoſum*; and Moriſon, *Papaver ſpinoſum luteum, foliis albis, venis notatis.* It grows naturally in Mexico, Jamaica, and the Caribbee iſlands.

Claſs and order in the Linnæan ſyſtem. The characters.

Argemone is of the claſs and order *Polyandria Monogynia*; and the characters are,

1. Calyx is a roundiſh perianthium, compoſed of three roundiſh, pointed, concave, caduous leaves.
2. Corolla conſiſts of five roundiſh, erect, patent petals, that are larger than the calyx.
3. Stamina conſiſt of numerous filiforme filaments the length of the calyx, with oblong erect antheræ.
3. Pistillum. The germen is five-cornered, and oval. There is no ſtyle. The ſtigma is thick, obtuſe, reflexed, permanent, and divided into five parts.
5. Pericarpium is an oval quinquangular capſule of five valves, and one cell.
6. Semina. The ſeeds are numerous, and ſmall.

CHAP.

CHAP. XXXIV.

ARTEDIA.

THERE is no Engliſh name for this genus, which conſiſts of one ſpecies only. Linnæus, in his former works, arranged two ſpecies under this head; but afterwards he removed one of them to *Daucus*, to which it more juſtly belongs; the other therefore ſtands alone, and, needing no title, is called ſimply *Artedia*.

The plant deſcribed.

This plant is an Annual, and will grow to about two feet high. The ſtalk branches a little, and the leaves are elegantly compoſed of many narrow parts, like thoſe of Fennel. The flowers are white, and terminate the ſtalks in large umbels; they will be in blow in July, and are ſucceeded by ripe ſcaly ſeeds in the autumn.

Method of propagation.

Theſe plants are eaſily raiſed by the ſeeds. The beſt time for ſowing them is the autumn; for they will then not only come up in greater abundance, and flower earlier the ſummer following, but will be ſurer of perfecting their ſeeds, which is not always done when the plants are ſown in the ſpring.

As the plants will come up before winter, they muſt have a well-ſheltered place, and afterwards they will require no further trouble than weeding, and thinning them where they come up too cloſe.

Theſe plants muſt be ſown where they are deſigned to flower; for they hardly ever look healthy, if they grow after being once tranſplanted.

Titles.

Squammata.

This plant is called, *Artedia ſeminibus ſquamatis*. This title was formerly given to diſtinguiſh it from another ſuppoſed ſpecies, which was imagined to belong to it, that had prickly ſeeds; but as it now ſtands alone, there is no occaſion for any thing except the word *Artedia*. Tournefort calls it, *Thapſia orientalis, anethi folio, ſemine eleganter crenato*; Caſpar Bauhine, *Gingidium fœniculi folio*; and Cammerarius, *Gingidium Rauwolffii*. It grows naturally on Mount Lebanon.

Claſs and in the Linnæan Syſtem. The characters.

Artedia is of the claſs and order *Pentandria Digynia*; and the characters are,

1. CALYX. The general umbel is patent, plane, and compoſed of many ſmall ones. The partial umbel is ſimilar.

The general involucrum is compoſed of about ten oval, oblong leaves, about the length of the umbel, and cut at the top into three ſharp ſegments.

The partial involucrum turns outward, and conſiſts of two or three narrow, pinnated leaves, that are longer than the umbellula.

2. COROLLA. The general corolla is radiated and difform. The floſcules in the diſk are all males, and each is compoſed of five inflexed, cordated, erect petals.

Thoſe of the radius are hermaphrodites; they are like the others, but the outer petal is larger, and divided into two parts..

3. STAMINA. The ſtamina of all of them conſiſt of five capillary filaments, with ſimple, roundiſh antheræ.

4. PISTILLUM of the flowers in the radius conſiſts of a ſmall germen ſituated below the flower, and of two reflexed ſtyles, with ſimple ſtigmas.

5. PERICARPIUM. There is none. The fruit is roundiſh, compreſſed, ſquamous at the edge, and diviſible into two parts.

6. SEMINA. The ſeeds are two; their figure is oblong, and their edges are finely ſet with roundiſh ſpreading ſcales.

CHAP.

CHAP. XXXV.

ARTEMISIA, MUG-WORT.

ARTEMISIA affords us the following annuals, viz.

Species.

1. Siberian Wormwood.
2. Indian Wormwood.
3. Chineſe Wormwood.

Siberian Wormwood deſcribed.

1. The Siberian Wormwood hath leaves which very much reſemble thoſe of Tanſey, are triply pinnated, ſmooth, of a fine-green colour, and finely ſcented. The flowers grow in great plenty from the wings of the leaves towards the upper part of the ſtalk; they are collected into roundiſh heads, hang downward, are ſmall, and make but little ſhow.

Variety.

There is a variety of this ſpecies with leaves divided into ſmaller ſegments, which generally flowers the ſecond ſeaſon after being ſown.

Deſcription of Indian

2. Indian Wormwood. This ſpecies hath a very weak ſtalk, that ſends out a few taper, ſtriated, downy ſide-branches growing alternately. The leaves are ſimple, but ſo deeply indented at the ſides, as to form a kind of lyre-ſhaped leaf. The flowers grow ſingly on naked, ſtriated, hairy footſtalks; they are yellow in the diſk, and large, being about the ſize of the Common Chamomile.

and China Wormwood.

3. China Wormwood. This is a very ſmall plant. The ſtalk is weak, and lies on the ground. The leaves are ſimple, wedge-ſhaped, and ſmooth. The flowers are very ſmall, and grow ſingly from the wings of the leaves, without any footſtalks: They make no ſhow, and there is no other inducement to the raiſing of this plant than the deſire of a general collection.

Propagation of the firſt ſpecies.

The firſt ſpecies ſhould be ſown in Auguſt, in a warm border of light earth, in a well-ſheltered place. They will readily come up; and if the winter ſhould be likely to prove very ſevere, it would be proper to prick round the bed ſome furze-buſhes, to break the edge of the cutting froſts; but common winters they endure very well. Plants thus raiſed in the autumn will flower early the ſummer following, and produce good ſeeds for a ſucceſſion.

Propagation of the other two ſpecies.

The other two ſpecies ſhould be raiſed on a hot-bed in March; and when fit to be tranſplanted, they ſhould be removed, with a ball of earth at the roots, to the places where they are deſigned to flower. A moiſt day, if poſſible, ſhould be choſen for the purpoſe; and the plants ſhould be conſtantly watered and ſhaded until they have taken root, after which they will require no further care than keeping them clear of weeds. It is not a bad way to ſow the ſeeds in pots, (a few ſeeds of each ſpecies in a pot) and then to plunge them in the hot-bed. After the plants are come up, and well hardened to the air, the pots may be taken up, and plunged up to the rims in the beds where the plants are deſigned to flower; or the roots may be turned out of the pots with the mould, and planted in their deſtined places. Thus the plants will not droop on their removal, and will often flower ſooner than thoſe that have been backwarded by an unfavourable ſeaſon at the time of their being taken out of the hot-bed.

Titles.

1. The Siberian Annual Wormwood is titled, *Artemiſia foliis triplicato-pinnatis utrinquè glabris, floribus ſubgloboſis nutantibus, receptaculo glabro conico.* Gmelin calls it, *Artemiſia, radice annuâ, viridis, foliis pinnatis, pinnis pinnatifidis, calycibus ſubrotundis ferè erectis ex alis copioſiſſimis*; Amman, *Abſinthium, tanaceti folio, odoratiſſimum*; and Boerhaave, *Abſinthium, folio tenui multifido, camphoram ſpirans.* It grows naturally in Siberia..

Annua.

2. Indian Wormwood is titled, *Artemiſia foliis ſimplicibus lyrato-ſinuatis, caulibus procumbentibus, floribus pedunculatis ſolitariis globoſis oppoſiti-foliis*: Plukenet calls it, *Abſinthium Maderaſpatanum, ſenecionis incano folio, corymbis ſolitariis in ramulorum faſtigio ſpecioſis.* Another ſort of it he terms, *Abſinthium minus odoratum Gangeticum floribus chamæmeli, ſolitariis è foliorum alis.* It grows naturally in India.

Maderas=
=patana.

3. China Wormwood is titled, *Artemiſia foliis cuneiformibus repandis, caule procumbente, floribus axillaribus ſeſſilibus.* It grows naturally in China.

Minima.

CHAP. XXXVI.

ASPERUGO, SMALL WILD BUGLOSS.

THERE are only two ſpecies of this genus, both of which are annuals. They are uſually called,

Species.

1. The Engliſh Small Wild Bugloſs.
2. The Ægyptian Bugloſs.

Engliſh Small Wild Bugloſs deſcribed.

1. The Engliſh Small Wild Bugloſs hath ſeveral trailing branching ſtalks about two feet long, which are angular, hollow, and armed with ſpines. The leaves are very hairy, indented, rough, long, narrow, and inclined to an oval

figure. The flowers are ſmall, of a blue colour, will be in blow in June, and ſhed their ſeeds ſoon after, by which plenty of plants will ariſe.

Ægyptian Bugloſs deſcribed.

2. Ægyptian Bugloſs. The ſtalks are very diffuſe. The leaves are broad, ſpear-ſhaped, exceeding rough, and full of warts; they are of a faint-purple colour near the ends, and grow on footſtalks on the branches. The flower has a white tube, and the mouth is yellow; but being ſhorter than the calyx, diſplays no figure: It will be in blow in July or Auguſt, and the ſeeds ripen in autumn.

Culture.

The culture of theſe ſpecies is no more than ſowing the ſeeds in a warm border in the ſpring, and thinning the plants to proper diſtances where they come up too cloſe. The Engliſh ſpecies will afterwards ſhed its ſeeds, and produce plants enough without further care: But the ſeeds of the Ægyptian ſpecies ſhould always be gathered, and ſown in the ſpring, as there will not always be a certainty of plants ſucceeding the ſeeds that ſcatter themſelves in the natural way.

Titles.

Procumbens.

1. The Engliſh Small Wild Bugloſs is titled, *Aſperugo calycibus fructûs compreſſis.* Caſpar Bauhine calls it, *Bugloſſum ſylveſtre, caulibus procumbentibus.* It grows naturally in England and moſt parts of Europe.

Ægyptiaca.

2. Ægyptian Bugloſs is titled, *Aſperugo calycibus fructûs ventricoſis.* In the former edition of the *Species Plantarum* it is titled, *Lycopſis foliis calloſo-verrucoſis, caule diffuſo, corollis regularibus.* It is a native of Ægypt.

Claſs and order in the Linnæan ſyſtem. The characters.

Aſperugo is of the claſs and order *Pentandria Monogynia*; and the characters are,

1. Calyx is an erect, permanent, monophyllous perianthium, divided at the top into five parts.

2. Corolla is an infundibuliforme petal. The tube is cylindrical, and very ſhort. The limb is ſmall, and cut into five obtuſe parts. The mouth is cloſed by five convex, prominent, connivent ſquamulæ.

3. Stamina conſiſt of five very ſhort filaments in the mouth of the corolla, with oblong, covered antheræ.

4. Pistillum conſiſts of four compreſſed germina, a ſhort filiforme ſtyle, and an obtuſe ſtigma.

5. Pericarpium. There is none. The calyx is large, erect, compreſſed, connivent, and contains the ſeeds.

6. Semina. The ſeeds are four, oblong, and compreſſed.

* * *

CHAP. XXXVII.

ASPERULA, WOODROOF.

THERE is one ſpecies of this genus of ſhort duration, called, Blue Woodroof.

The plant deſcribed.

The root is long, fibrous, and of a reddiſh colour. The ſtalk is upright, ſquare, jointed, branching, and a foot and a half high. The leaves are oblong, pointed, of a dull-green colour, and grow ſix together at a joint, ſurrounding the ſtalk in a radiated manner. The flowers come out in cluſters from the ends of the ſtalks and branches, ſitting cloſe at their extremities; they are of a blue colour, appear in June and July, and the ſeeds ripen in Auguſt and September.

This ſpecies is ſaid to be a native of England, but I never could find in what part it grows. It riſes annually among the corn in France and Germany, and is there little noticed: With us it is propagated as an Annual, and its culture is extremely eaſy.

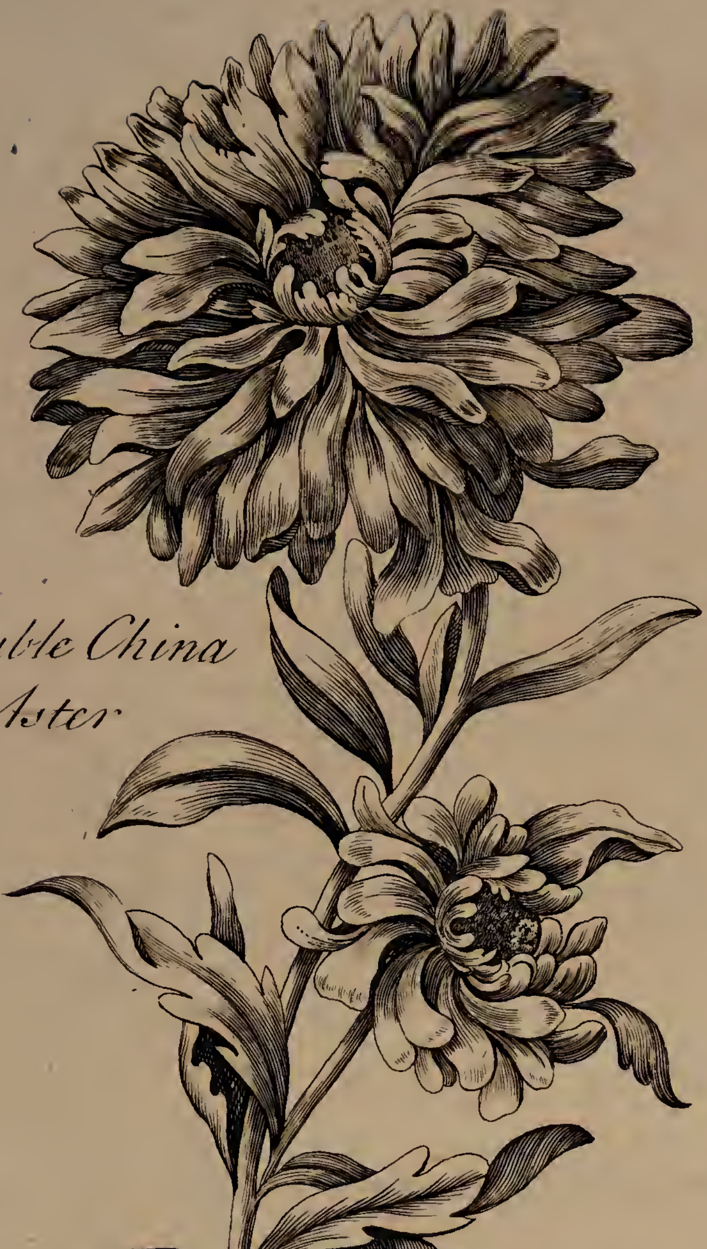
Culture.

Sow the ſeeds ſoon after they are ripe, or in the ſpring, in any common garden-mould made fine, and they will readily grow. When the plants come up, they muſt be thinned where they are too cloſe, kept clean from weeds, and this is all the trouble they will require. After they have once ſeeded, if they are permitted to ſcatter, there will ſpontaneouſly ariſe plants enough for a ſucceſſion.

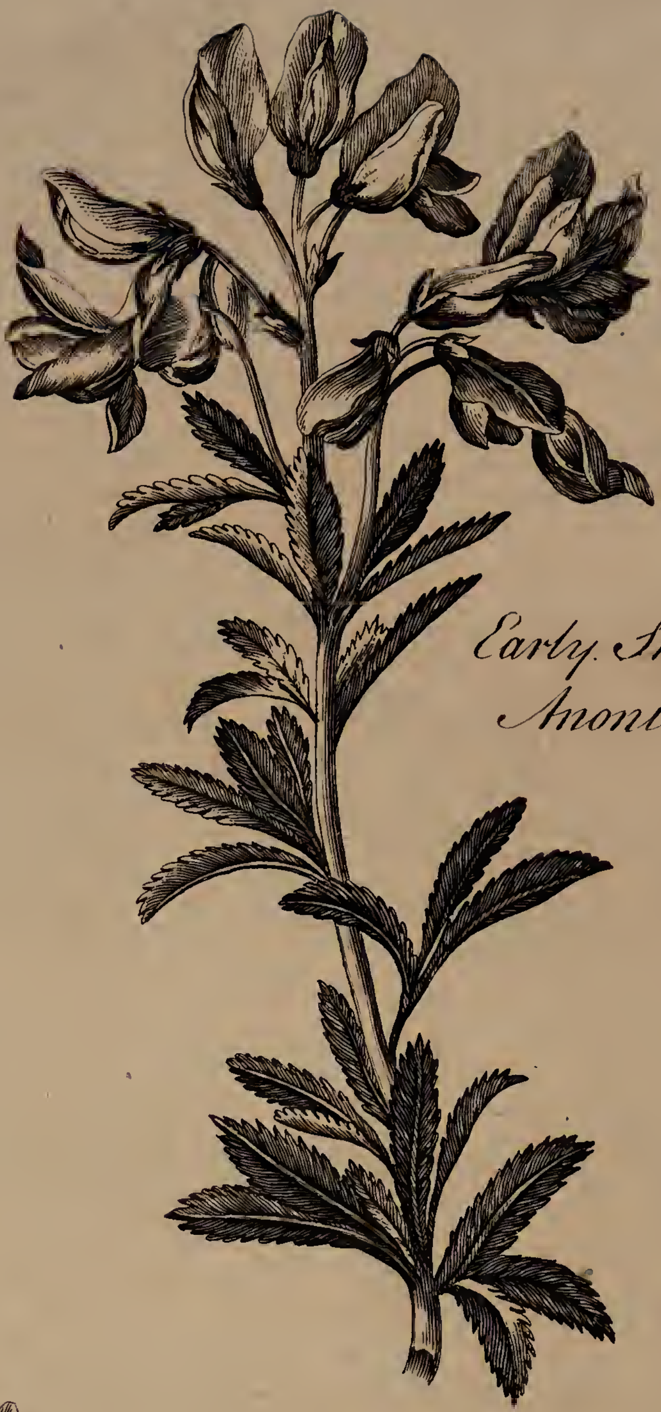
Titles.

Arvensis.

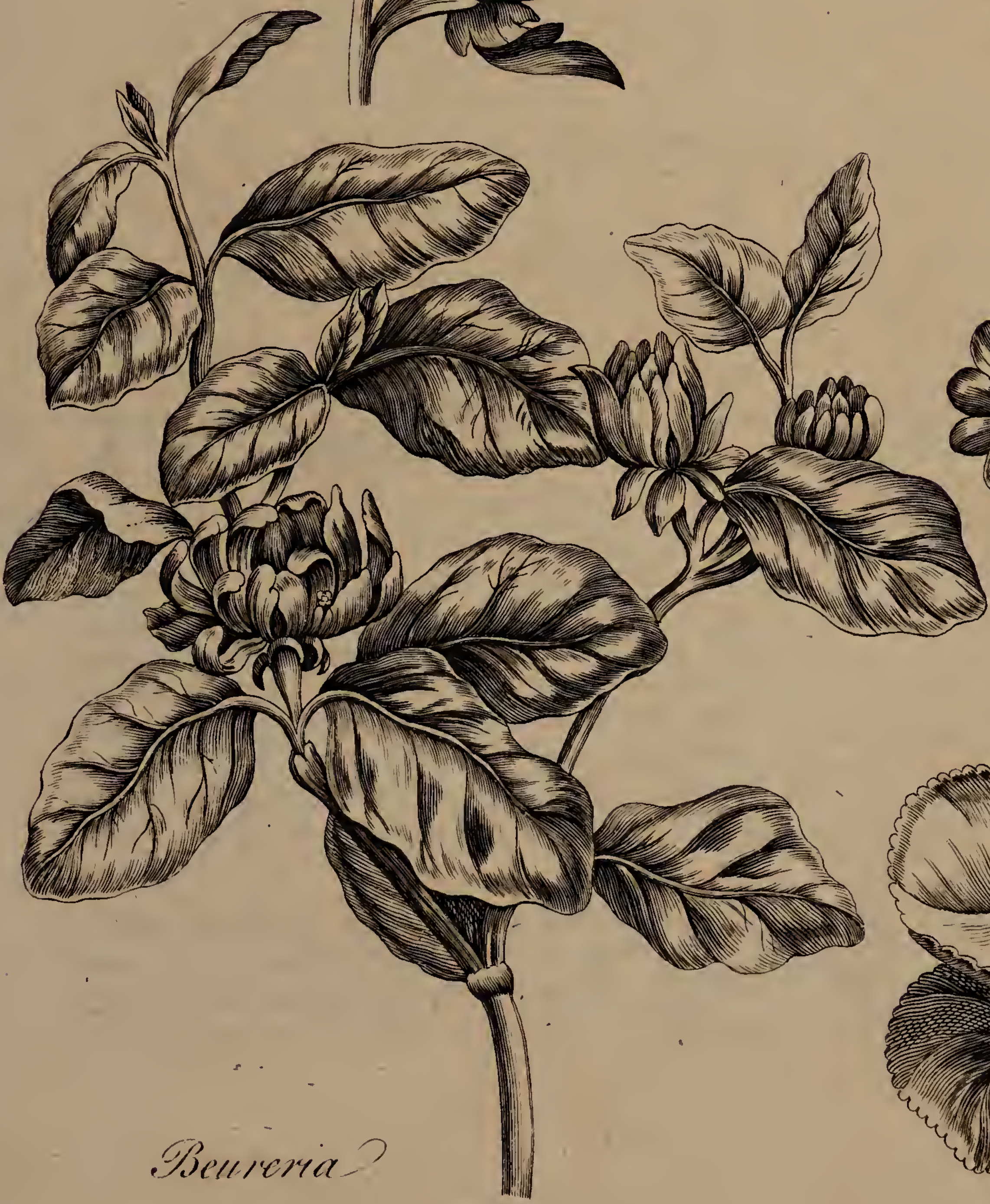
This ſpecies is titled, *Aſperula foliis ſenis, floribus ſeſſilibus aggregatis terminalibus.* Van Royen calls it, *Aſperula foliis pluribus, floribus ſeſſilibus*; Caſpar Bauhine, *Aſperula cærulea arvenſis*; and Dodonæus, *Aſperula cærulea.* It grows plentifully in Flanders, moſt parts of Germany, and in France.



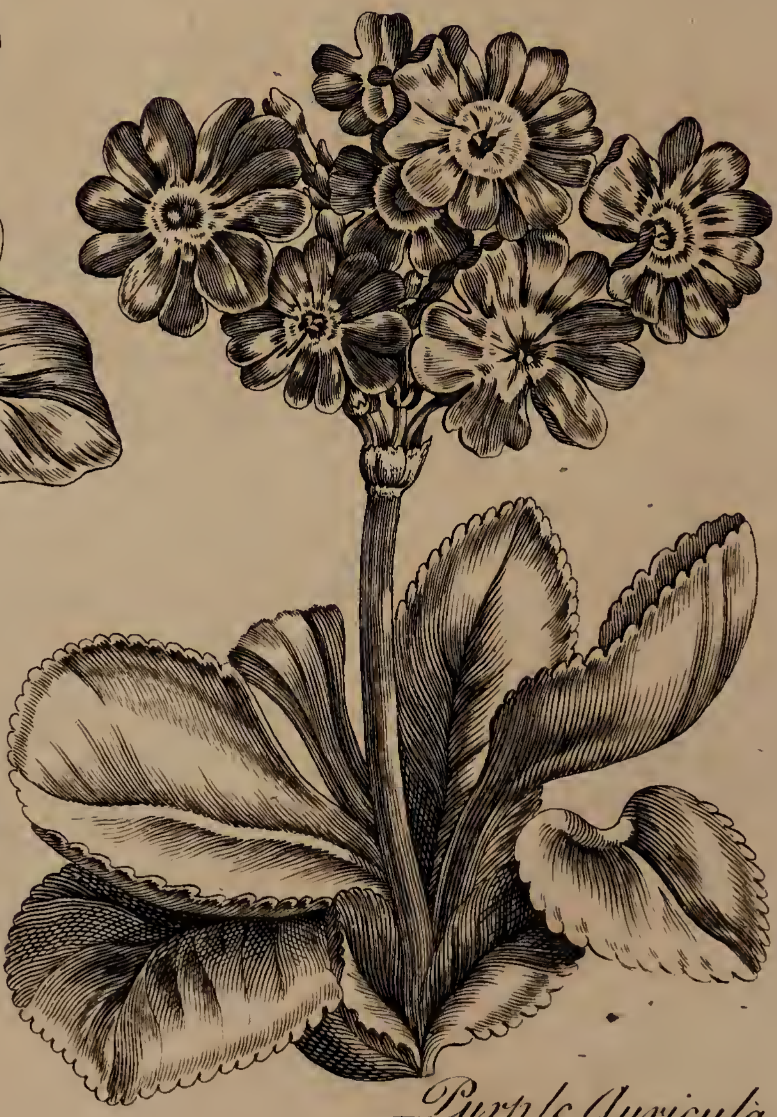
Double China Aster



Early Shrub Anonis



Beureria



Purple Auricula

CHAP. XXXVIII.

ASPHODELUS, ASPHODEL, or KING'S SPEAR.

OF this genus there are only three diſtinct ſpecies in reality, though they comprehend many varieties, among which there is one whoſe root dies away ſoon after the flower is fallen. It is called The Annual Fiſtular-leaved Aſphodel.

Annual Fiſtular-leaved Aſphodel deſcribed.

The root is compoſed of numerous yellow, thick, fleſhy fibres: Theſe are collected into an head, from which ariſe a cluſter of ſpreading, hollow, fiſtular leaves. Theſe leaves are narrow, pointed, convex on their under-ſurface, but plane above, and frequently ſpread themſelves flat on the ground. The flower-ſtalk is naked, branching, and will grow to be two feet high. The flowers grow in long, looſe ſpikes, adorning the ends of the branches in a very agreeable manner; they are ſtarry, and the inſide of the petals is white; but there is a ſtain of purple running lengthways down the middle of each ſegment on the outſide. They will be in blow the latter end of the ſummer, and the ſeeds ripen in the autumn.

Method of propagation.

The beſt time for ſowing theſe ſeeds is in autumn, ſoon after they are ripe, as they will be both ſurer of growing, and flower earlier the ſummer following. Some ſeeds, however, ſhould be reſerved for the ſpring, to come in as the earlier blow goes off. They ſhould be ſown in the places where they are to remain, and ſhould be thinned where they come up too cloſe; and this is all the trouble they will require. After that, the ſeeds will ſow themſelves, come up, and flower ſtrong, without any other trouble than thinning as before.

Titles. Fistulo-sum.

This ſpecies is termed. *Aſphodelus caule nudo, foliis ſtrictis ſubulatis ſtriatis ſubfiſtuloſis.* Herman calls it, *Phalangium, parvo flore, ramoſum, foliis fiſtuloſis, annuum.* It grows naturally in Italy, France, and Spain.

CHAP. XXXIX.

ASTER, STAR-WORT.

Introduction.

THE Annuals of this genus have been but a few years ſince introduced into our gardens; and we are happy in their company, and grant them a kindly welcome, as there are no flowers in the world, of ſuch low-ſized plants, that make ſo ſhowy an appearance at the cloſe of the autumn, when moſt flowers are paſt. Neither is their culture difficult: They may be chiefly raiſed on a common hot-bed, and being removed will of courſe deck our gardens in the moſt ſhowy, grand, and pleaſing manner. The real ſpecies are,

Species.

1. The China *Aſter*.
2. The Canada *Aſter*.
3. The Vera Cruz, or the Pinnated-leaved *Aſter*.

The China Aſter deſcribed.

1. The China *Aſter* is the ſpecies I chiefly refer to in the above commendations. In its moſt perfect ſtate, it will ſhew itſelf about two feet high. The leaves are oval, angular, indented, and placed on footſtalks on the branches. The ſtalk is round, runs into ſeveral diviſions, and each of the branches is terminated by one large, ſpecious flower of the following varieties:

Varieties.

The Single White.
Single Red.
Single Blue.
Single Purple.
Double White.
Double Red.
Double Blue.
Double Purple.

The Double ſorts are amazingly grand and fine; though the Single ſorts are not without their admirers; for being ſo large, and ſo elegantly ſurrounded by the rays, they are by ſeveral preferred to the full Doubles.

They uſually blow in Auguſt; but many chuſe to have them in their full perfection the end of September, and in October or November, when the ſhow for moſt flowers is over.

Deſcription of Canada and Pinnated-leaved Aſter.

2. The Canada *Aſter* is much inferior to the other ſpecies, but the culture proportionally more eaſy; for having once introduced it into a garden, it will flower and ſcatter the ſeeds, by which plenty of plants will ariſe for a ſucceſſion without any trouble. It will grow to about two feet high. The leaves are of an oval figure, and their edges are indented. The flowers terminate the ſtalks in a corymbus, are of a white colour, and ſtand on naked footſtalks; they will be in full blow in Auguſt, and ripen their ſeeds in the autumn.

3. Pinnated-leaved *Aſter*. This is a very

fine annual, but very tender, and requires a good deal of attendance to bring it to perfection. It is a low plant, ſeldom riſing higher than a foot. The ſtalk is beautifully adorned with the leaves, which are pinnated, each conſiſting of about three pair of heart-ſhaped, ſerrated lobes, terminated by an odd one. The flower crowns the top of the ſtalk, is large, and of an orange colour. With good management it may be made to blow in July, and ripen the ſeeds in September.

Culture of the Pinnated-leaved, For this purpoſe, ſow the ſeeds early in the ſpring on a common hot-bed. The plants will readily come up; and until they are fit to remove, they muſt have all the care and nurſing of tender plants. After this, they muſt be planted in pots, which muſt be plunged again into a ſecond hot-bed; and when the heat of this is abated, they muſt have a third hot-bed, where they may remain, being conſtantly kept under glaſſes until they flower. If there is the conveniency of a ſtove, the beſt way will be to plunge the pots at firſt into the bark bed, where the plants will flower, and perfect their ſeeds without further trouble.

Canada, The Canada *Aſter* is propagated by ſowing of the ſeeds any-time in the autumn or the ſpring. Afterwards it will ſcatter the ſeeds, and freſh plants will ariſe, which will call for no other culture than thinning them where they come up too cloſe.

and China Aſter. As to the China *Aſter*, ſow the ſeeds on a moderate hot-bed in the ſpring, and there let them ſtand until the plants are tolerably ſtrong. In the hot-bed let them have as much air as poſſible, and frequent waterings; and in a moiſt day remove them to the places where they are deſigned to flower, which will be in Auguſt or September; and they will ripen their ſeeds ſoon after the flowers are fallen.

A large quantity of theſe plants ſhould always be planted together to make a ſhow, and a proper mixture of the ſpecies ſhould conſtantly be attended to. They ſhould be ſet at about a foot and a half aſunder; and I have known a whole garden ſpread over with them late in the autumn; which to a perſon unuſed to flowers has been inchanting.

If you chuſe to have your ſhow late in the autumn, you ſhould always obſerve to raiſe a ſufficient quantity of plants to come in early, for the ſake of the ſeeds; for good ſeed from the late blow can hardly be expected.

If you are particularly fond of the Double flowers, you muſt be very careful in gathering of the ſeeds. You muſt mark the full Doubles, thoſe of the beſt colours, the largeſt, and which grow on the ſtatelieſt and moſt branching plants; and every year, when the plants begin to flower, you muſt go over them, and pull out all ſingle, ſemi-doubles, and thoſe that diſcover bad properties. Thus may your collection be improved, and your gardens adorned with theſe plants in the grandeſt manner.

Titles. Chinensis. 1. The China *Aſter* is titled, *Aſter foliis ovatis angulatis dentatis petiolatis, calycibus terminalibus patentibus folioſis.* Dillenius calls it, *Aſter, chenopodii folio, annuus, flore ingenti ſpecioſo.* It grows naturally in China, from whence the ſeeds were ſent into Europe by the French miſſionaries about the year 1731, after which they ſoon became known and admired in France; but it was many years later before they became common in our gardens.

Annuus. 2. The Canada *Aſter* is titled, *Aſter foliis ovatis, inferioribus crenatis, caule corymboſo, pedunculis nudis, calycibus hemiſphæricis.* Moriſon calls it, *Aſter annuus ramoſus albus latifolius Canadenſis*; Cornutus, *Bellis ramoſa umbellifera.* It grows naturally in Canada.

Aurantius. 3. Pinnated-leaved Orange-coloured *Aſter* is titled, *Aſter foliis pinnatis.* Houſtoun calls it, *Aſter Americanus, foliis pinnatis & ſerratis, floribus aurantiis.* It grows naturally at Vera Cruz, from whence the ſeeds were firſt brought by Doctor Houſtoun, about the year 1731.

CHAP. XL.

ASTRAGALUS, MILK-VETCH, or WILD LIQUORICE.

THE perennial ſpecies of this genus already enumerated are numerous; the annual and biennial ſpecies are,

Species.
1. Montpelier Milk-vetch.
2. Trailing Maritime Annual Milk-vetch.
3. Italian Annual Milk-vetch.
4. Spaniſh Milk-vetch.
5. Ægyptian Milk-vetch.
6. Foxtail Alpine Milk-vetch.

The firſt five of theſe ſpecies are annuals, and the ſixth is a biennial.

Deſcription of Montpelier 1. Montpelier Milk-vetch hath ſeveral ſtriated branches, which lie flat on the ground. The leaves are pinnated; the pinnæ conſiſt of about eight pair beſide the odd one, and their ends are crenated. The flowers are produced from the wings of the leaves on footſtalks about three inches long; they are of a pale-yellow colour, will be in blow in June, and are ſucceeded by awl-ſhaped, ſmooth, recurved pods, which will afford ripe ſeeds in September.

and Trailing Maritime Annual Milk-vetch. 2. Trailing Maritime Annual Milk-vetch. The ſtalks are trailing, and will grow to about two feet long. The leaves are pinnated; and the pinnæ, which conſiſt of about ten pair beſide the odd one, are obtuſe, and thinly placed along the mid-rib. The flowers are produced from the wings of the leaves on footſtalks about two inches long. Four or five of them uſually grow together; they are of a yellow colour, will be in blow in July, and are ſucceeded by upright, triangular, priſm-ſhaped pods, which will afford you ripe, greeniſh, ſquare ſeeds in October.

Deſcription of Italian, 3. Italian Milk-vetch. The ſtalks of this ſpecies are weak, and very diffuſe. The leaves are pinnated, and hairy; and the pinnæ conſiſt of about ten or twelve pair, which are not always terminated by an odd one. The flowers are produced from the ſides of the branches in ſmall heads, are of a copper colour, will be in blow in July, and are ſucceeded by erect, awl-ſhaped, reflex-pointed pods, which will afford you ripe ſeeds in the autumn.

Spaniſh, 4. Spaniſh Milk-vetch hath a few trailing, hairy branches. The leaves are pinnated; the pinnæ are obtuſe; and their number is about ten pair, beſides the odd one which terminates them. The flowers are produced in round heads from the wings of the leaves on long footſtalks; they are of a fine purple colour, will be in blow in July, and are ſucceeded by rough, ſhort, heart-ſhaped, pointed pods, which will afford you ripe ſeeds in the autumn.

Ægyptian 5. Ægyptian Milk-vetch. This is a very low, tender plant, with hardly any ſtalk at all. The flowers grow immediately from the root on footſtalks. Two or three uſually grow together; they are of a yellow colour, will be in blow in July, and are ſucceeded by awl-ſhaped, bicarinated pods, which do not always bring their ſeeds to perfection in our gardens.

and Fox-tail Alpine Milk-vetch. 6. Fox-tail Alpine Milk-vetch. This ſpecies is a biennial. The ſtalks are upright, firm, hairy, and will grow to about a yard high. The leaves are large, being compoſed of about twenty pair of oval pinnæ, beſides the odd one which terminates them. The flowers are produced in thick, ſhort, cylindrical ſpikes, from the wings of the leaves, on hardly any footſtalks; the ſpikes are covered with a ſilvery down, out of which the flowers appear in a ſingular manner: Theſe are of a pale-yellow colour, will be in blow in July, and are ſucceeded by oval, woolly pods, which will afford you ripe ſeeds in the autumn.

Culture of the firſt four ſpecies. The culture of the firſt four ſpecies is by ſowing the ſeeds, in the ſpring, in the places where they are to remain; for they do not bear tranſplanting well. They will readily come up, and afterwards will call for no more trouble than keeping them clean from weeds, and thinning them where they come up too cloſe. When they come to flower, the ſtrongeſt and the beſt muſt be marked out for ſeeds, which muſt be carefully gathered, and kept in a paper-bag until the ſpring following, for a ſucceſſion.

Culture of the Ægyptian Milk-vetch. The Ægyptian Milk-vetch ſhould be ſown in pots, and plunged into a moderate hot-bed; and, afterwards, if they have the benefit of a ſecond hot-bed, it will be the better. When the heat of this is abated, let the pots remain ſtill in the beds, to be covered with the glaſſes in bad weather; and they will flower ſo much the fairer, and ſometimes perfect their ſeeds.

Culture of the ſixth ſpecies. The ſeeds of the ſixth ſpecies ſhould be ſown in the places where the plants are to remain. They ſhould be ſown very thinly; for the plants, after they come up, ſhould be thinned to about a foot and a half diſtance from each other. In the ſecond year the plant will flower, and perfect its ſeeds; and as it is naturally a biennial, it ſhould be ſtationed accordingly. In other reſpects you need not be over-ſollicitous; for it is very hardy, and will grow or thrive in almoſt any ſoil or ſituation.

Titles. Hamosus. 1. Montpelier Milk-vetch is titled, *Aſtragalus caulefcens procumbens, leguminibus ſubulatis, recurvatis glabris.* In the *Hortus Cliffort.* it is termed, *Aſtragalus leguminibus pendulis recurvis ſulcatis.* Cluſius calls it, *Aſtragalus Monſpeliacus*; Caſpar Bauhine, *Securidaca lutea minor, corniculis recurvis.* It grows naturally near Montpelier in France.

Boeticus. 2. Trailing Maritime Annual Milk-vetch is titled, *Aſtragalus caulefcens procumbens, ſpicis pedunculatis, leguminibus priſmaticis rectis triquetris apice uncinatis.* Van Royen calls it, *Aſtragalus caule erecto, floribus ſpicatis, leguminibus oblongis acinaciformibus, apice recurvo*; Plukenet, *Aſtragalus annuus, foliis & ſiliquis longioribus glabris ad foliorum ortum communi pediculo innixis*; Moriſon, *Aſtragalus luteus annuus Bæticus maritimus rectus alter*; Boccone, *Securidaca Sicula, ſiliquis foliaceis.* It grows naturally in Sicily, Portugal, and Spain.

Sesameus. 3. Italian Milk-vetch is titled, *Aſtragalus caulefcens diffuſus, capitulis ſubſeſſilibus lateralibus, leguminibus erectis ſubulatis acumine reflexis.* Plukenet calls it, *Aſtragalus annuus, foliis & ſiliquis hirſutis, plurimis in foliorum alis ſeſſilibus*; Caſpar Bauhine, *Ornithopodio affinis hirſuta, fructu ſtellato*; Columna, *Vicia ſeſamea Apula.* It grows naturally in Italy and France.

Epiglottis. 4. Spaniſh Milk-vetch is titled, *Aſtragalus caulefcens procumbens, leguminibus capitatis cordatis acutis hirſutis complicatis.* In the *Hortus Cliffort.* it is termed, *Aſtragalus ſiliquis cordatis acutis pendulis, lateralibus conniventibus.* Herman calls it, *Aſtragalus Hiſpanicus, ſiliquâ epiglottidi ſimilis, flore purpureo major*; Barrelier, *Aſtragaloides incana, flore purpureo lentis ſiliqua.* It grows naturally in Spain and in the Eaſt.

Trimestris. 5. Ægyptian Milk-vetch is titled, *Aſtragalus ſubacaulis, ſcapis ſubbifloris, leguminibus hamatis ſubulatis bicarinatis.* Van Royen calls it, *Phaca leguminibus arcuatis.* It is a native of Ægypt.

Alopecuroides. 6. Fox-tail Alpine Milk-vetch is titled, *Aſtragalus caulefcens, ſpicis cylindricis ſubſeſſilibus, calycibus leguminibuſque lanatis.* In the *Hortus Cliffort.* it is termed, *Aſtragalus capitulis oblongis ſeſſilibus calycibus & leguminibus lanatis.* Tournefort calls it, *Aſtragalus Alpinus procerior alopecuroides.* It grows naturally in Siberia and Spain.

CHAP. XLI.

ATHAMANTA, SPIGNEL.

THERE is only one real ſpecies of this genus that is an annual, though it admits of two or three varieties: It is uſually called, the Annual Spignel of Crete.

The plant deſcribed. This plant will grow to about two feet high. The leaves are compoſed of numerous parts, which are very narrow, taper, ſharp-pointed, and whitiſh. The flowers terminate the ſtalks in umbels; their colour is white; they will be in blow in July, and are ſucceeded by ſtriated hairy ſeeds, which will be ripe in the autumn.

Culture. This plant is eaſily raiſed by ſowing the ſeeds on a bed of any common mould, in the ſpring; but if they are ſown in the autumn, ſoon after they are ripe, they will flower earlier the ſummer following. The beſt way is to ſow them where they are to remain. After they come up they will call for no trouble, except keeping them clean from weeds, and thinning them where they are too cloſe.

Titles. Annua. This ſpecies is titled, *Athamanta foliis multipartitis: laciniis linearibus teretiuſculis acuminatis.* Moriſon terms the two principal varieties of it thus; one he calls, *Myrrhis annua, ſemine ſtriato villoſo, incana*; and the other, *Myrrhis tenuifolia annua Cretica, ſemine lanugine albâ pubeſcente.* It grows naturally in Crete.

CHAP. XLII.

ATHANASIA.

THIS genus affords us one ſpecies of our ſhort-lived collection, called Annual *Athanaſia.*

The plant deſcribed. The ſtalk is upright, tender, divides into a few branches, and grows to about a foot and a half high. The leaves are ſmooth, pinnatifid, indented, and hoary. The flowers terminate the ſtalk in round, ſimple, compact bunches; they are of a yellow colour, and deſtitute of fragrance; they appear in July and Auguſt, and the ſeeds (attended by a coarſe down) will be ripe in the autumn.

Culture. The ſeeds of this ſpecies ſhould be ſown on a ſlight hotbed, in the ſpring; and when the plants are fit to remove, each ſhould be taken up, with a ball of earth to the root, and ſet in a warm well-ſheltered place. If dry weather ſhould happen after being planted, they muſt be duly watered, and conſtantly ſhaded until they have taken root. During the ſummer they muſt be conſtantly kept clean from weeds, and in July and Auguſt the plants will exhibit their bloom, and afford ripe ſeeds in the autumn.

Titles. Annua. This ſpecies is titled, *Athanaſia corymbis ſimplicibus coarctatis, foliis pinnatifidis dentatis.* Magnol calls it, *Elichryſum inodorum glabrum, coronopi folio, annuum*; Triumfetti, *Chryſanthemum corymbiferum*; and Moriſon, *Bellis polyclonos annua Africana, coronopi folio, floribus nudis compactis.* It grows naturally in Africa.

CHAP. XLIII.

ATRACTYLIS, DISTAFF THISTLE.

BESIDES the Carline Thiſtle of the ſhops, already treated of, there is of this genus,

Species.
1. The Annual Diſtaff Thiſtle.
2. The Biennial Diſtaff Thiſtle.

Deſcription of the Annual 1. The Annual Diſtaff Thiſtle has a ſmall ſtalk, about eight inches high. This ſtalk is garniſhed with a few narrow, hoary, indented leaves, with prickly edges. It divides near the top into a few ſmall branches, and each of them is terminated by a head of purple flowers, like ſome of our Thiſtles. The calyx is narrow at the top, ſwells below, is netted over, and looks beautiful. The florets are very numerous; they will be in blow in July, and ſometimes are ſucceeded by good ſeeds in the autumn.

and Biennial Diſtaff Thiſtle. 2. Biennial Diſtaff Thiſtle. There are two or three varieties of this ſpecies, one of which will grow to about a foot high, the others only to about five or ſix inches. The leaves are indented, and their edges guarded by ſpines. The ſtalk divides into a few branches near the top, and each is terminated by a head of purple flowers. They will be in blow in June, and ſometimes are ſucceeded by ripe ſeeds in the autumn.

Culture. Theſe plants riſe readily from ſeeds; but as they do not often ripen in our gardens, unleſs the autumn proves warm and favourable, care muſt be taken to procure them from abroad, if you chuſe to keep up a conſtant ſucceſſion of them.

They ſhould be ſown in the ſpring, in a bed of light ſandy earth; and if the ground is not naturally ſo, a bed ſhould be prepared for the ſeeds, by introducing three or four wheel-barrows-full of drift-ſand. Having prepared your bed, cover the ſeeds over with about a quarter of an inch of light mould. When the plants come up too cloſe, thin them; and this, except keeping them clean from weeds, will be all the culture they will require.

The ſeeds of both ſorts muſt be ſown in the places where they are to remain; and if you place over the flower ſome Carnation-glaſſes, and continue them in wet weather, there will be a greater certainty of procuring good ſeeds from the flowers in autumn.

Titles. Cancellata.
1. The Annual Diſtaff Thiſtle is titled, *Atractylis involucris cancellatis ventricoſis linearibus dentatis, calycibus ovatis, floribus floſculoſis.* In the *Hortus Cliffort.* it is termed, *Atractylis foliis linearibus dentatis, calycibus conniventibus.* Loefling calls it, *Atractylis flore radiato nudo, calyce inermi, involucro connivente obtecto*; Caſpar Bauhine, *Acarna capitulis globoſis*; John Bauhine, *Carduus parvus*; Moriſon, *Eryngium parvum palmane, foliis ſerratis*; and Alpinus, *Carduus minimus.* It grows naturally in the fields of Spain, Sicily, and Crete.

Humilis.
2. The Biennial Diſtaff Thiſtle is, *Atractylis foliis dentato-ſinuatis, flore radiato: obvallato involucro patente, caule herbaceo.* Loefling calls it, *Atractylis radiata, ſquamis calycinis truncatis, cum ſpinulâ ſetaceâ*; Tournefort, *Cnicus aculeatus purpureus humilior*; Vaillant, *Crocodiloides atractylidis folio, flore purpureo coronato*; and Barrelier, *Carlina minima cauloides Hiſpanica.* It is a native of Spain, and grows plentifully on the hills near Madrid.

CHAP. XLIV.

ATROPA, DEADLY NIGHTSHADE.

THERE is one ſpecies of this genus that is an Annual, called the Annual *Atropa.*

The plant deſcribed. This plant riſes with an erect, branching, angular ſtalk to the height of about two feet. The leaves are ſmooth, oblong, angular, ſinuated, and placed alternately on the branches. The flowers are of one leaf, large, of a fine purple or violet colour; they blow in July and Auguſt, and are ſucceeded by roundiſh berries, of three or more cells, full of roundiſh compreſſed ſeeds.

Culture. This plant is raiſed by ſowing of the ſeeds on a moderate hotbed, in the end of March. When the plants come up, care muſt be taken to prevent their drawing weak, by admitting as much free air as poſſible. Water them as often as you find occaſion, and with this management let them continue undiſturbed until the beginning of May; then, on a moiſt day, remove them, with a ball of earth to each root, to the places where they are deſigned to flower.

Titles. Physaloides.
This ſpecies is titled, *Atropa caule herbaceo, foliis ſinuato-angulatis, calycibus clauſis acutangulis.* Fewil calls it, *Alkekengi amplo flore violaceo.* It grows naturally in Peru.

CHAP. LV.

AVENA, OATS.

Species. THE Annuals of this genus are,

1. Common cultivated Oats of our Fields and Cloſes.
2. Naked Oats, or Pilcorn.
3. Hairy Wild Oats.
4. Barren Oats.

The laſt two ſorts grow common by the borders of fields among corn, often in hedges and ſome woods in many parts of England, and are not cultivated plants. The ſecond ſort is frequently cultivated, chiefly for the purpoſes of oat-meal, for which it will be ready, being naked as ſoon as it is threſhed. Theſe Oats are ſmall, and being leſs yielding, are in general judged of inferior value to the beſt kinds of the firſt ſpecies, called the Common cultivated Oat of the Farmers.

By this is meant the White Oat, which is the moſt generally cultivated in this kingdom. Of this genus there are numerous varieties, which differ greatly in value when threſhed; ſome being long, bad coloured, and of little kernel; others large, round, bright, and of good colour. In his choice of the ſeeds the huſbandman ſhould be careful to ſow the beſt; for though they be only ſeminal varieties, yet the crop in general will be ſimilar to the ſeed that was ſown.

Varieties. Beſides the ſort of the White Oat there are other varieties, which are pretty permanent, and have been reckoned as diſtinct ſpecies by old Botaniſts; ſuch as the Black Oat, the Red Oat, the Brown, &c.

Theſe ſorts are chiefly cultivated in cold, expoſed places; becauſe they are more hardy, may be ſown a month ſooner than the Common White Oats, and afford abundance of increaſe. They are eſteemed admirable for horſes and cattle, but are ſeldom employed for oat-meal, making of oat-cakes, or bread, or beer. Culture.

The culture of Oats is known to every-body; and there are very few landholders who have not experienced their amazing increaſe and gain.

Titles. 1. The title of the cultivated Oats is, *Avena paniculata, calycibus diſpermis, ſeminibus lævibus.* Caſpar Bauhine calls it, *Avena alba*; alſo, *Avena nigra.* It grows naturally in the iſland Juan Fernandez. Sativa.

2. Naked Oats, or Pilcorn, is, *Avena paniculata calycibus trifloris, receptaculo calycem excedente, petalis dorſo ariſtatis.* Caſpar Bauhine calls it, *Avena nuda.* It grows naturally in ſome parts of England, though but ſparingly. Nuda.

3. Hairy Wild Oats is, *Avena paniculata, calycibus trifloris, floſculis omnibus baſi piloſis ariſtis totis lævibus.* In the *Flora Lapp.* it is termed, *Avena ſeminibus hirſutis.* Caſpar Bauhine calls it, *Feſtuca utriculis lanugine flaveſcentibus*; and Scheuchzer, *Gramen avenaceum, locuſtis lanugine flaveſcentibus.* It grows naturally among grain in cultivated fields in England, and moſt countries of Europe. Fatua.

4. Barren Oat is titled, *Avena paniculata, calycibus quinquefloris: exterioribus floſculis ariſtiſque baſi piloſis, interioribus muticis.* It grows naturally in Spain.

CHAP. LVI.

AYENIA,

OF this genus there is one ſhort-lived ſpecies, called, Peruvian *Ayenia*.

The plant deſcribed. The ſtalk is ſlender, ligneous, weak, branching, and about a foot long. The leaves are heart-ſhaped, pointed, ſmooth, ſlightly indented on the edges, of a bright-green colour, and are placed alternately on longiſh footſtalks. The flowers come out three or four together from the wings of the leaves, along the ſides of the branches, each having its own ſeparate footſtalk; they are of a purple colour, appear in July and Auguſt, and the ſeeds ripen in the autumn.

Culture. This ſpecies is a native of the warm parts of the world, and is raiſed here by ſowing the ſeeds in a hotbed in the ſpring. When the plants are fit to remove, each ſhould have a ſeparate pot, then be plunged up to the rims in a bark bed, and ſhaded and duly watered until they have taken root. They muſt afterwards have more air, and frequent waterings, eſpecially in hot weather; but they ſhould not be taken out of the bed. In July they will exhibit their bloom, which will continue in ſucceſſion for four or five months, if they be kept to a due temperature of heat; before which time ripe ſeeds from the firſt-blown flowers may be gathered for a ſucceſſion.

Titles. Pusilla. This ſpecies is titled, *Ayenia foliis cordatis glabris.* In Miller's Dictionary it is termed, *D'Ayena inermis, foliis oblongo-cordatis marginibus dentatis, floribus axillaribus.* Loefling calls it, *Ayenia foliis ovatis acutis ſerratis, germine pedicellato, nectario plano ſtellato*; and Sloane, *Urticæ folio anomala, flore pentaphyllo purpureo, fructu pentacocco muricato.* It grows naturally in Jamaica, Cuma, and Peru.

Claſs and order in the Linnæan ſyſtem. The characters. *Ayenia* is of the claſs and order *Gynandria Pentandria*; and the characters are,

1. Calyx is a perianthium compoſed of five oval, acute, patent leaves.

2 Corolla is five heart-ſhaped mucronated petals, with very long capillary ungues. The nectarium is bell-ſhaped, the length of the calyx, and divided at the brim into five depreſſed lobes.

3. Stamina are five filaments inſerted in the margin of the nectarium, having roundiſh antheræ.

3. Pistillum conſiſts of a roundiſh germen ſituated in the bottom of the nectarium, a cylindrical ſtyle, and an obtuſe pentagonal ſtigma.

5. Pericarpium is a pentacoccous, roundiſh, muricated capſule, containing five cells.

6. Semina. The ſeeds are ſingle, and oblongiſh.

CHAP. XLVII.

BARTSIA.

Of this genus is one ſhort-lived ſpecies, called, Marſh Eye-bright Cow-wheat.

The plant deſcribed. The ſtalk is ſlender, herbaceous, branching, and a foot and a half high. The leaves are moderately broad, ſerrated, clammy to the touch, and the upper ones grow alternately. The flowers come out from the ſides of the branches almoſt the whole length; they are ſmall, and of a pale-yellow colour; they appear in July and Auguſt, and the ſeeds ripen in the autumn.

Culture. This ſpecies grows common by the ſides of waters and boggy grounds in many parts of England, and is not propagated in gardens. But if a perſon is deſirous of a few plants to be ready for obſervation, he may ſow the ſeeds in the ſpring, in ſome moiſt part of the garden, where they will grow and produce ſeeds enough for a ſucceſſion.

Titles. Viscosa. This ſpecies is titled, *Bartſia foliis ſuperioribus alternis ſerratis, floribus lateralibus.* Moriſon calls it, *Euphraſia latifolia viſcata ſerrata*; alſo, *Euphraſia lutea latifolia paluſtris*; Ray, *Euphraſia major lutea latifolia paluſtris*; Plukenet, *Euphraſia lutea paluſtris*; and Barrelier, *Alectorolophos Italica luteo-pallida.* It grows naturally in England, France, and Italy.

CHAP. XLVIII.

BELLIS, The DAISY.

There are only two real ſpecies of this genus, the Common Daiſy of our meadows, and the Annual Daiſy. The former delights moſt in low grounds and paſtures, and is found in plenty almoſt all over Europe. The latter occupies the hilly and mountainous parts of Spain, Portugal, Italy, Sicily, and France; for it is found growing naturally no where in England, and rarely in any other parts of Europe, except thoſe above-mentioned.

The plant deſcribed. This is a lower plant than our Daiſy; but the ſtalk is leafy on the under-part, and naked near the top. Its height is about three inches. It is hoary, upright, and ſupports a ſingle ſmall flower with white rays, like the Common Daiſy of our fields, though ſmaller. It has leſs beauty than that plant, but being of foreign growth is more acceptable; it is nevertheleſs ſeldom propagated, except by thoſe who are fond of a general collection of plants..

Method of raiſing it. It is raiſed by ſowing the ſeeds on a ſhady border of undunged, ſandy, light earth; the plants will readily come up; and afterwards there is nothing more to be done than to keep them clean from weeds, and being careful to gather the ſeeds, when they are ripe, for a ſucceſſion.

Titles. Annua. The Annual Daiſy is titled, *Bellis caule folioſo.* Boccone terms one ſort of it, *Bellis minima pratenſis, caule folioſo*; another, *Bellis maritima minima, roris ſolis folio, cyrnea*; Caſpar Bauhine, *Bellis maritima, foliis agerati*; Triumfetti, *Bellis minima annua*; and Micheli, *Bellis leucanthemum annuum Italicum.* It grows naturally on the Alpine parts of all the before-mentioned countries.

CHAP. XLIX.

BIDENS, WATER HEMP AGRIMONY.

THE ponds of our large gardens are very often poſſeſſed of one or other of the ſpecies of *Bidens*; and when this happens, it muſt be a pleaſure to the owner to know what they are. I ſhall therefore mention thoſe that grow naturally in England, and proceed to the other ſorts that are worth cultivating in gardens. The ſpecies of this genus then are,

Species.

1. Trifid Water Hemp Agrimony.
2. Whole-leaved Water Hemp Agrimony.
3. The Leaſt Water Hemp Agrimony.
4. Indian *Bidens.*
5. Cape *Bidens.*
6. Canada Smooth-leaved *Bidens.*
7. American Hairy *Bidens.*
8. Bipinnated *Bidens.*
9. Snowy-flowered *Bidens.*
10. Bullated American *Bidens.*

Deſcription of the Trifid, 1. Trifid Water Hemp Agrimony. This hath a round branching ſtalk, that will grow to about a yard high. The leaves are divided into three parts, and their edges are ſerrated. The flowers are numerous, and of a yellow colour; they will be in blow in July and Auguſt, and ripen their ſeeds in the autumn.

Whole-leaved, 2. Whole-leaved Water Hemp Agrimony. This will grow to two or three feet high. The leaves are whole, ſpear-ſhaped, and embrace the ſtalk with their baſe. The flowers are of a yellow colour, and hang drooping. They will be in blow in July and Auguſt, and ripen their ſeeds in the autumn.

and Leaſt Water Hemp Agrimony 3. The Leaſt Water Hemp Agrimony. This is a very ſmall plant. The leaves are ſpear-ſhaped, narrow, and ſit cloſe to the ſtalks, without any footſtalks. The flowers grow erect; they will be in blow nearly at the ſame time as the others, and are ſucceeded by good ſeeds in the autumn.

Culture. Theſe three ſorts grow naturally in ditches, ponds, lakes, &c. in many parts of England, and are very ſeldom propagated in gardens.

Indian, 4. Indian *Bidens.* The ſtalk is very branching, hairy, taper, and grows to about a foot high. The leaves are oval, angularly indented, obtuſe, ſmooth on the upper ſurface, hairy underneath, and placed on broadiſh footſtalks on the branches. The flowers are yellow; they will be in blow in June, and ripen their ſeeds in the autumn.

Cape, 5. Cape *Bidens* is a ſmall tender plant. The leaves are very narrow. The flowers have four-leaved cups, exceeding narrow footſtalks, and are ſucceeded by ſeeds ſtanding erect.

Canada Smooth-leaved, 6. Canada Smooth-leaved *Bidens.* The ſtalk is upright, firm, and of a reddiſh colour. The leaves are pinnated, and compoſed of three or five ſmooth, ſtriated, ſerrated lobes. The flowers are yellow, have very leafy cups, and are ſucceeded by erect diſtant ſeeds.

American Hairy, 7. American Hairy *Bidens.* This plant hath a jointed, barbated ſtalk. The leaves are pinnated, broad, and hairy. The flowers grow in a conical form in the diſk; they have ſimple cups, and the ſeeds that ſucceed them naturally diverge from each other.

Bipinnated, 8. Bipinnated *Bidens.* There are ſeveral varieties of this ſpecies. The leaves of ſome are doubly pinnated, and thoſe of others cut into a greater multitude of narrow ſegments. The flowers are connivent, and very often deſtitute of that great ornament the rays. The ſeeds are very long, and diverge from each other.

Snowy-flowered, 9. Snowy-flowered *Bidens.* This hath an upright, branching ſtalk, which will riſe to a yard high. The leaves are of an oval triangular figure, ſerrated, pointed, and grow oppoſite by pairs on ſlender footſtalks. The flowers are of a ſnowy-white colour; they are formed into globular heads growing on long ſlender footſtalks, and are ſucceeded by ſmooth ſeeds.

and Bullated American Bidens deſcribed. 10. Bullated American *Bidens.* This plant riſes with an upright ſtalk, that ſends forth many ſide-branches to the height of about two feet. The lower leaves are of an oval figure, thick, bullated, hairy, ſerrated, and grow oppoſite by pairs at the joints; but thoſe on the upper parts of the plant are trifoliate, the middle lobe being very large, and the two ſide ones very ſmall. The flowers grow ſingly from the wings of the leaves on very ſhort footſtalks; they are of a yellow colour, are very ſmall, will be in blow in July, and ripen their ſeeds in September.

Culture. The propagation of the firſt three ſpecies is never attempted in gardens; that of the others is beſt effected by ſowing the ſeeds on a moderate hotbed in the ſpring. When the plants come up, they muſt have as much air as poſſible, and frequent waterings; and here they may remain until they are planted out for good. A moiſt day in May, when all danger from bad weather is over, ſhould be choſen for the purpoſe. The plants ſhould be taken up with a ball of earth to each root; if the weather proves hot they ſhould be ſhaded at firſt, and afterwards they will call for no further trouble. In July or Auguſt they will flower, and many of them will ſcatter their ſeeds, which will come up, and become good plants the ſpring following.

Titles.

Tripartita.

1. The Trifid Water Hemp Agrimony is titled, *Bidens foliis trifidis, calycibus ſubfolioſis, ſeminibus erectis.* In the *Hortus Cliffort.* it is termed, *Bidens corona ſeminum retrorſum aculeata, ſeminibus erectis.* Tournefort calls it, *Bidens foliis tripartito-diviſis*; Caſpar Bauhine, *Cannabina aquatica folio tripartitim diviſo*; and Dodonæus, *Hepatorium aquatile.* It grows naturally in watery places in moſt countries of Europe.

Cernua.

2. Whole-leaved Water Agrimony is, *Bidens foliis lanceolatis amplexicaulibus, floribus cernuis, ſeminibus erectis.* Caſpar Bauhine calls it, *Cannabina aquatica, folio non diviſo*; and Tabernæmontanus, *Eupatorium cannabinum chryſanthemum.* It grows naturally in ditches and pools in moſt parts of Europe.

Minima.

3. The Leaſt Water Hemp Agrimony is, *Bidens foliis lanceolatis ſeſſilibus floribus ſeminibuſque erectis.* Dillenius calls it, *Verbeſina minima.* It grows naturally in ponds in moſt parts of Europe.

Nodiflora.

4. Indian *Bidens* is, *Bidens foliis oblongis integerrimis, caule dichotomo, floribus ſolitariis ſeſſilibus.* Dillenius calls it, *Bidens nodiflora, brunellæ folio.* It grows naturally in India.

Tenella.

5. Cape *Bidens* is, *Bidens foliis linearibus, pedunculis capillaribus, calycibus ſubtetraphyllis, ſeminibus erectis quinis.* It grows naturally at the Cape of Good Hope.

Frondosa.

6. Canada Smooth-leaved *Bidens* is, *Bidens foliis pinnatis ſerratis lineatis glabris, ſeminibus erectis, calycibus folioſis, caule lævi.* Tournefort calls it, *Bidens Canadenſis latifolia, flore luteo*; Moriſon, *Chryſanthemum cannabinum bidens Virginianum, caule erecto firmo ſubrubente.* It grows naturally in North America.

Pilosa.

7. American Hairy *Bidens* is, *Bidens foliis pinnatis ſubpiloſis, caulis geniculis barbatis calycibus, involucro ſimplici, ſeminibus divergentibus.* In the *Hortus Cliffort.* it is termed, *Bidens corona ſeminum retrorſum aculeata, ſeminibus undique patentibus.* Dillenius calls it, *Bidens latifolia hirſutior, ſemine anguſtiore radiato.* It grows naturally in America.

Bipinnata.

8. Bipinnated *Bidens* is, *Bidens foliis bipinnatis inciſis, calycibus involucratis, corollis ſemiradiatis, ſeminibus divergentibus.* Herman calls it, *Chryſanthemum aquaticum, foliis multifidis cicutæ nonnihil ſimilibus, Virginianum*; Moriſon, *Chryſanthemum cannabinum bidens Virginianum, cicutariæ foliis, floſculis conniventibus.* It grows naturally in Virginia.

Nivea.

9. Snowy-flowered *Bidens* is, *Bidens foliis ſimplicibus ſubhaſtatis ſerratis petiolatis, floribus globoſis, pedunculis elongatis, ſeminibus lævibus.* Van Royen calls it, *Bidens foliis cordatis ſerratis petiolatis, floribus globoſis, pedunculis filiformibus*; Vaillant, *Ceratocephalus foliis cordatis, ſ. triangularibus, flore albo*; and Dillenius, *Bidens ſcabra, flore niveo, folio trilobato*; alſo, *Bidens ſcabra, flore niveo, folio panduræformi.* It grows naturally in Carolina.

Bullata.

10. Bullated American *Bidens* is, *Bidens foliis ovatis ſerratis: inferioribus oppoſitis, ſuperioribus ternatis: intermedio majore.* It grows naturally in America.

Claſs and order in the Linnæan ſyſtem. The characters.

Bidens is of the claſs and order *Syngeneſia Polygamia Æqualis*; and the characters are,

1. Calyx is erect, and compoſed of ſeveral oblong, caniculate, concave leaves, that are often equal.

2. Corolla is uniform and compound. The florets are funnel-ſhaped, erect, tubulous, and cut at the top into five ſegments.

3. Stamina are five very ſhort capillary filaments, with a cylindrical tubulous anthera.

4. Pistillum conſiſts of an oblong germen, a ſimple ſtyle the length of the ſtamina, and two oblong reflexed ſtigmas.

5. Pericarpium. There is none.

6. Semina. The ſeeds are ſingle, angular, obtuſe, and have each two or more oblong, erect, acute, ſcabrous, or prickly kind of briſtles, that faſten to whatever comes near them.

The receptacle is paleaceous and plane.

CHAP. L.

BISCUTELLA, BUCKLER MUSTARD.

THERE are only two ſpecies of this genus, which, though plants of no great beauty, are eaſy of culture, make variety in a collection, and as ſuch may claim a place with other hardy Annuals. They are called,

Species.

1. Auriculated *Biſcutella.*
2. Didymous *Biſcutella.*

Auriculated Biſcutella deſcribed.

1. The Auriculated *Biſcutella* riſes with a hairy branching ſtalk to a foot and a half or two feet high. The leaves on the lower part of the plant are of an oblong figure, broad, and obtuſe; thoſe on the higher part are narrower; they grow ſingly at the joints, and are a little indented. The flowers terminate the branches in looſe panicles. Each is compoſed of four obtuſe, ſpreading, yellow petals, placed croſs-ways. They will be in blow in July or Auguſt, and ripen their ſeeds in the autumn.

Variety.

There is a variety of this ſpecies with narrow leaves, and flowers growing cloſer together.

Didymous Biſcutella deſcribed.

2. Didymous *Biſcutella.* This plant will grow to about the ſame height with the former. The radical leaves are very hairy, long, narrow, indented, and much reſemble thoſe of Hawkweed. The ſtalk is deſtitute of leaves, and divides into ſeveral ſmall branches, each of which is terminated by a panicle of yellow flowers. Each flower is compoſed of four yellow petals, placed croſs-ways; and is ſucceeded by a double roundiſh pod, containing the ſeeds.

Varieties.

There are two or three varieties of this ſort. The flowers of one terminate the ſtalks in cloſe ſpikes; thoſe of another are formed into cluſters. They flower in July or Auguſt, and ripen their ſeeds in September.

Culture. Theſe ſorts are all eaſily propagated by ſowing of the ſeeds in the autumn or ſpring. The beſt time is the autumn, ſoon after they are ripe: The plants will then come up before winter, and will hold out againſt our ſevereſt weather; and plants thus forwarded by early ſowing, will flower proportionally earlier the ſummer following. The ſpring, however, is a good ſeaſon to ſow theſe ſeeds. Any bed of common mould will do for them; and though they will be later than thoſe ſowed in the autumn, they will nevertheleſs be early enough to flower and perfect their ſeeds by October.

After the plants come up, nothing more need be done than to thin them to proper diſtances; and when they have once flowered they will ſcatter their ſeeds, and of themſelves raiſe plenty of plants for a ſucceſſion.

Titles. Auriculata. 1. The firſt ſpecies is titled, *Biſcutella calycibus nectario utrinque gibbis, ſiliculis in ſtylum coeuntibus.* Caſpar Bauhine calls it, *Thlaſpidium biſcutatum villoſum, flore calcari donato*; Columna, *Leucojum montanum, flore pedato*; and Barrelier, *Jon Draba alyſſoides lutea anguſtifolia.* It grows naturally in France and Italy.

2. The ſecond ſort is titled, *Biſcutella ſiliquis orbiculato-didymis à ſtylo divergentibus.* Didyma. Caſpar Bauhine calls it, *Thlaſpi biſcutatum aſperum hieracifolium majus*; Cluſius, *Thlaſpi clypeatum*; and Columna, *Jon Draba alyſſoides Apula ſpicata.* It grows naturally on hilly grounds in Spain, Italy, and Germany.

Claſs and order in the Linnæan Syſtem. *Biſcutella* is of the claſs and order *Tetradynamia Siliculoſa*; and the characters are,

The characters. 1. CALYX is a perianthium compoſed of four oval, pointed, coloured, deciduous leaves.

2. COROLLA conſiſts of four oblong, obtuſe, patent petals, placed in form of a croſs.

3. STAMINA are ſix filaments the length of the tube of the corolla, of which the two oppoſite ones are ſhorter than the other. The antheræ are ſimple.

4. PISTILLUM conſiſts of an orbiculated, compreſſed, emarginated germen, a ſimple permanent ſtyle, and an obtuſe ſtigma.

5. PERICARPIUM is an erect, compreſſed, plane, ſemibifid pod of two cells.

6. SEMINA. The ſeeds are ſingle, roundiſh, compreſſed, and lodged in the middle of each cell.

CHAP. LI.

BISERRULA.

THERE is no Engliſh name to this genus, and it admits of one ſpecies, ſimply called, *Biſerrula.*

The plant deſcribed. The ſtalks are numerous, angular, ſlender, branching, and trail on the ground. The leaves are pinnated, being compoſed of a number of heart-ſhaped lobes, placed oppoſite on the mid-rib, and terminated by an odd one. The flowers are produced in cluſters from the ſides of the branches, near the ends, on long footſtalks; they are ſmall, reddiſh, and of the butterfly kind. They will be in blow in June or July, and are ſucceeded by large, plane, narrow pods, containing ripe kidney-ſhaped ſeeds, in the autumn.

Culture. The propagation of this ſpecies is by ſowing the ſeeds where they are to remain, either in the autumn or ſpring; though the autumn is the more eligible ſeaſon, not only as they will flower earlier the ſummer following, but as they will be ſurer of perfecting their ſeeds, which they do not always from the ſpring-ſown plants.

Some, however, may be ſowed at both ſeaſons, and the ſhew of flowers will be continued longer; but it is from the firſt-blown ſorts that the ſeeds muſt be collected for a ſucceſſion.

Where they come up too cloſe, they muſt be thinned to proper diſtances, kept clean from weeds; and this is all the trouble they will require.

Titles. Pelacinus. The name of this genus is, *Biſerrula.* Moriſon calls it, *Aſtragalus purpureus annuus peregrinus ſiliquis utrinque ſerræ ſimilis*; Caſpar Bauhine, *Securidaca ſiliquis planis utrinque dentatis*; and Cluſius, *Securidaca peregrina.* It grows naturally in Spain, Italy, Sicily, and France.

Claſs and order in the Linnæan ſyſtem. *Biſerrula* is of the claſs and order *Diadelphia Decandria*; and the characters are,

The characters. 1. CALYX is a monophyllous, tubulous, erect perianthium, divided at the top into five equal ſubulated parts, the two upper being at a greater diſtance.

2. COROLLA is papilionaceous. The vexillum is large, riſing, roundiſh, and reflexed at the ſides. The alæ are oval, oblong, free, and ſhorter than the vexillum. The carina is obtuſe, bending upwards, and of the ſame length as the wings.

3. STAMINA are diadelphous, and incloſed in the carina; nine of them are joined together, the other ſtands ſingle, and their ends point upward. The antheræ are very ſmall.

4. PISTILLUM conſiſts of an oblong, compreſſed germen, a ſubulated riſing ſtyle, and a ſimple ſtigma.

5. PERICARPIUM is a large, narrow, plane pod of two cells.

6. SEMINA. The ſeeds are many, reniforme, and compreſſed.

CHAP. LII.

BLITUM, STRAWBERRY SPINACH.

THERE are only two real ſpecies of the *Blitum*, which are more reſpected on account of their fruit than flowers. They have the appearance of Strawberries, Mulberries, or the like, and therefore have a ſingular effect among Annuals. Theſe are uſually called,

Species. 1. Strawberry-fruited *Blitum*, or Strawberry Spinach.

2. Mulberry-fruited *Blitum*, or Mulberry Spinach.

Strawberry Spinach deſcribed. 1. The Strawberry Spinach riſes, as may be imagined, in the manner of our garden Spinach. It will grow to about the ſame height, and the ſtalks and leaves have the ſame figure and appearance. The flowers are produced in ſmall cluſters at the ends of the ſtalks, and all along the upper-part of the ſtalk they grow in ſmall heads at every joint; and theſe are ſucceeded by the fruit, which conſtitutes the greateſt value of this plant. It is of a fine red colour, and of the ſize and appearance of a Strawberry. It is very full of a purple juice, which ſtains, on being bruiſed, to a deep purple.

Variety. There is a variety of this ſpecies of taller growth, which uſually retains its difference from ſeeds: It will riſe to about a yard in height, and the leaves are indented; but the berries being ſmaller than the preceding ſort, makes it leſs valuable.

Mulberry Spinach deſcribed. 2. Mulberry Spinach. This is a ſmall-growing plant, ſeldom riſing to above a foot in height. The leaves are ſmaller than the preceding ſort, ſhaped like thoſe of Spinach, and the whole plant has the appearance of that eſculent. The flowers are produced almoſt the whole length of the ſtalk from the wings of the leaves in ſmall heads, and the fruit is ſuppoſed by many to reſemble that of the Mulberry-tree.

Culture. The culture of theſe plants is very eaſy. Sow them in the ſpring, in almoſt any ſoil or ſituation; they will readily come up, and afterwards want no more care than thinning and keeping them clean from weeds until they begin to ſhew their fruit. They ſhould be thinned to half a foot or more diſtance from each other; and when the fruit begins to ſhew itſelf, each ſtem ſhould be ſupported by a ſmall ſtick, to prevent the branches falling to the ground. In July or Auguſt they will be in their full glory, and afterwards ſhed their ſeeds, come up in plenty, and require no more trouble than thinning, &c. as before.

Theſe plants bear tranſplanting very well; but this ſhould be always done before the flower-ſtems advance; ſo that where they come up too thick, they may be given away, or ſet in pots to adorn court-yards, or the like.

Titles. 1. Strawberry Spinach is titled, *Blitum capitellis ſpicatis terminalibus.* Ray calls it, *Atriplex baccifera.* It grows naturally in Spain, Portugal, and many parts of Europe. Capitatum.

2. Mulberry Spinach is titled, *Blitum capitellis ſparſis lateralibus.* Caſpar Bauhine calls it, *Atriplex ſylveſtris, mori fructu.* It grows naturally in France, Italy, and Spain. Virgatum.

Claſs and order in the Linnæan ſyſtem. *Blitum* is of the claſs and order *Monandria Digynia*; and the characters are,

The characters. 1. CALYX is a tripartite, patent, permanent perianthium. The ſegments are oval, and of equal ſize, and two of them gape more than the other.

2. COROLLA. There is none.

3. STAMEN is a ſmall, erect, ſetaceous filament, longer than the calyx, and placed within the intermediate ſegment, with a didymous anthera.

4. PISTILLUM conſiſts of an oval pointed germen, and two erect gaping ſtyles the length of the ſtamina, with ſimple ſtigmas.

5. PERICARPIUM is a very ſmall, oval, compreſſed capſule.

6. SEMEN. The ſeed is ſingle, round, compreſſed, and of the ſize of the capſule.

CHAP. LIII.

BORAGO, BORAGE.

Species. THE Annuals of this genus are,

1. The Common Borage.
2. Indian Borage.
3. African Borage.

Common Borage deſcribed. 1. The firſt is the Common Borage, with a broad rough leaf, and a blue flower, and which is ſeldom propagated in our gardens except for its uſe in cool tankards, and for the ſake alſo of the flowers, when they are to be uſed in medicine.

Varieties. There is a variety of this ſpecies with white flowers, another with red, and a third with variegated leaves, all of which flower the whole ſummer, when they have got footing in a garden; for having once obtained a few plants, they will flower and ſcatter their ſeeds, which will come up in ſuch plenty, that they will be as difficult to extirpate as weeds.

Indian 2. Indian Borage riſes with a rough ſtalk to the height of about a foot. The leaves grow oppoſite by pairs, are very rough, and embrace the ſtalk with their baſe: They are moderately broad, but the calycinal leaves are narrow and ſpear-ſhaped. The flowers are of a pale-yellow colour; they will be in blow in July, and ripen their ſeeds in the autumn.

and African Borage deſcribed. 3. African Borage. This plant alſo hath a rough ſtalk, growing to about a foot in height. The leaves are very rough, and grow oppoſite on the branches on very ſhort footſtalks. Thoſe belonging to the calyx are oval, ſharp-pointed, and erect. The flowers are white; they come out in July, and ripen their ſeeds in the autumn.

Culture. In order to have theſe plants flower early, the beſt way will be to ſow the ſeeds in the autumn, in a warm well-ſheltered place; the plants will then readily come up, ſtand the winter, and will flower in June and July; whereas if the ſowing is deferred until the ſpring, the plants will often not be in blow before Auguſt; ſo that unleſs the autumn proves favourable, they will be too late to ripen their ſeeds.

Theſe plants do not bear removing well, on which account the ſeeds ſhould always be ſown where the plants are to remain. The ſituation ſhould be naturally warm: If they are ſown in the autumn, and the ſoil be light and ſandy, it will be ſo much the better.

Titles. 1. The Common Borage is titled, *Borago foliis omnibus alternis, calycibus patentibus.* In the *Hortus Cliffort.* it is termed, *Borago calycibus patentibus.* Caſpar Bauhine calls it, *Bugloſſum latifolium borago*; and John Bauhine, *Borago floribus cæruleis.* It grows naturally in England, and other parts of Europe. Officinalis.

2. Indian Borage is, *Borago foliis ramificationum oppoſitis amplexicaulibus, calycinis foliolis ſagittatis.* In the *Hortus Cliffort.* it is termed, *Borago calycinis foliis ſagittatis erectis.* Plukenet calls it, *Anchuſæ degeneris facie, Indiæ orientalis herba, quadri-capſularis.* It grows naturally in the Eaſt Indies. Indica.

3. African Borage is, *Borago foliis ramificationum oppoſitis petiolatis, calycinis foliolis ovatis acutis erectis.* Plukenet calls it, *Cynogloſſum boraginis folio et facie, Æthiopicum.* It grows naturally in Æthiopia. Africana.

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CHAP. LIV.

BRASSICA, CABBAGE.

THERE are a few ſpecies of the Cabbage that are preſerved as curioſities in ſome gardens, viz.

Species.

1. The Oriental Cabbage.
2. The Yellow Perfoliate Cabbage.
3. The China Spear-leaved Cabbage.
4. The Oval-leaved China Cabbage.
5. The Turnep Cabbage.

Deſcription of Oriental, 1. The Oriental Cabbage riſes with a branching, brittle ſtalk to the height of about two feet. The leaves are heart-ſhaped, ſmooth, and quite ſurround the ſtalks with their baſe. The flowers are white, will be in blow in June, and are ſucceeded by quadrangular pods, containing ripe ſeeds, in Auguſt.

Yellow Perfoliate 2. The Yellow Perfoliate Cabbage hath a ſlender, ſmooth, branching ſtalk of lower growth than the former. The leaves are heart-ſhaped, and the ſtalk appears as if thruſt through them near the baſe. The flowers are yellow, will be in blow in June, and ripen their ſeeds in Auguſt.

and China Spear-leaved Cabbage. 3. The China Spear-leaved Cabbage will grow to about two feet high. The leaves are ſpear-ſhaped, oval, ſmooth, undivided, and have their edges indented. The flowers are produced, like thoſe of the Cole-wort, in June, and the ſeeds ripen in Auguſt.

Deſcription of the Oval-leaved China

4. The Oval-leaved China Cabbage. This plant branches like the Cole wort. The leaves are oval, and nearly entire; but the floral leaves are ſpear-ſhaped, and embrace the ſtalk with their baſe. The flowers come out in June like ſome of the Cole-worts, and ripen their ſeeds in Auguſt.

and Turnep Cabbage.

5. The Turnep Cabbage is reckoned a curioſity by thoſe who are not acquainted with it, the bottom part of it reſembling a large turnep, and the top a cabbage or cole-wort. But as this is now grown pretty common, is a variety of the Common Cabbage only, and cultivated for the uſe of the table, a further account ſhall be given of it among the Cabbages, where the reader will find it treated of as an eſculent.

Culture of the firſt two ſpecies.

The ſeeds of the firſt two ſpecies ſhould be ſown in March, very thinly, on a bed of any common garden-mould made fine. Juſt raking them in will be ſufficient; and where they come up too cloſe, they muſt be thinned to about a foot and a half diſtance. They will then flower ſtrong in June, and perfect their ſeeds in Auguſt.

Culture of the third and fourth ſpecies.

The ſeeds of the third and fourth ſpecies ſhould be ſown in like manner in the autumn as ſoon as they are ripe. They will readily come up, but ſhould not be tranſplanted; ſo that it will be proper to thin them to about two feet diſtance from each other, and they will then flower ſtrong in June, and perfect their ſeeds in Auguſt.

After having once obtained all theſe ſpecies, they will ſcatter their ſeeds, and keep up the ſucceſſion themſelves, without giving you any trouble, except keeping them clean from weeds, and thinning them where they appear too cloſe.

Culture of the Turnep Cabbage.

The ſeeds of the Turnep Cabbage ſhould be ſown in Auguſt; and when the plants have got about five or ſix leaves, they ſhould be pricked out in another bed at about four inches diſtance from each other, and in October or November ſhould be ſet out for good. In the ſpring, the ſtalk immediately above the ſurface of the ground will begin to ſwell, and in a very little time will aſſume the appearance of a turnep, which will continue to grow larger and larger the greateſt part of the ſummer; all which time the cabbage-leaves being at the top, it has a very ſingular look. In winter the globular part becomes fit for eating; and in ſpring the ſtalks advance for flowering, like others of the Cabbage ſpecies.

Titles.

Orien=
=talis.

1. The Oriental Cabbage is titled, *Braſſica foliis cordatis amplexicaulibus glabris, radicalibus ſcabris integerrimis, ſiliquis tetragonis.* Cluſius calls it, *Braſſica campeſtris*; Caſpar Bauhine, *Braſſica campeſtris perfoliata, flore albo*; Tournefort, *Braſſica Orientalis perfoliata, flore albo, ſiliquâ quadrangulâ.* It grows naturally in the Eaſt; alſo about Montpelier in France, and in ſome parts of England.

Campes=
=tris.

2. Yellow Perfoliate Cabbage is, *Braſſica radice cauleque tenui, foliis caulinis uniformibus cordatis ſeſſilibus.* Loeſel calls it, *Braſſica campeſtris perfoliata, flore luteo.* It grows naturally in moſt parts of Europe.

[illegible]

3. China Spear-leaved Cabbage is titled, *Braſſica foliis lanceolato-ovatis glabris indiviſis dentatis.* It grows naturally in China.

Chinenſis.

4. China Oval-leaved Cabbage is titled, *Braſſica foliis ovalibus ſubintegerrimis, floralibus amplexicaulibus lanceolatis, calycibus ungue petalorum longioribus.* It is a native of China.

Oleracea.

5. The Turnep Cabbage being a variety of the Common Cabbage, its title is, *Braſſica radice cauleſcente tereti carnoſâ.* Cammerarius calls it, *Caulo-rapum*; John Bauhine, *Braſſica caulo-rapa.* It is a native of England.

Claſs and order in the Linnæan ſyſtem.

Braſſica is of the claſs and order *Tetradynamia Siliquoſa*; and the characters are,

The characters.

1. Calyx is a perianthium compoſed of four ſpear-ſhaped, narrow, concave, erect, parallel, deciduous leaves.

2. Corolla conſiſts of four petals placed croſs-ways. Theſe petals are nearly oval, plane, patent, and entire.

There are four oval, nectarious glands, one of which is placed between each of the ſhort ſtamina and the piſtil, and one on the outer ſide of each of the longer ſtamina and the calyx.

3. Stamina are ſix ſubulated, erect filaments, the two oppoſite ones of which are of the length of the calyx, and the other four are a little longer. Their antheræ are erect and pointed.

4. Piſtillum conſiſts of a taper germen the length of the ſtamina, a very ſhort ſtyle the thickneſs of the germen, and a capitated entire ſtigma.

5. Pericarpium is a long, taper, depreſſed pod, formed of two valves, and containing two cells.

6. Semina. The ſeeds are many, and round.

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CHAP. LV.

BROMUS.

THIS genus comprehends many ſhort-lived ſpecies of the graſs-kind, called,

Species.

1. Oat-Graſs, or Corn Brome-Graſs.
2. Field Brome-Graſs.
3. Soft Brome-Graſs.
4. Barren Brome-Graſs, or Wild Oats.
5. Wall Wild Oats.
6. Greater Barren Brome-Graſs, or Wild Oats.
7. Red Brome-Graſs.
8. Racemoſe Brome-Graſs.

Theſe are all very inſignificant graſſes, moſt of them going by the names of Wild Oats, Barren Oats, Wood Oats, Hedge Oats, and the like. Many of them are too common in cultivated fields, riſing among grain of all ſorts; whilſt others are found under hedges, in woods, &c.

and no inconſiderable ſhare occupy the tops of old buildings, walls, &c. They are not mentioned here as cultivated plants, but with a deſign only to introduce the titles, for the ſatisfaction of thoſe who would chuſe to know the true names of theſe Brome-graſſes, which are as follow:

Titles. Arvensis. 1. The firſt ſpecies is titled, *Bromus paniculâ nutante, ſpiculis ovato-oblongis.* In the *Flora Lapp.* it is termed, *Bromus culmo paniculato, ſpicis compreſſis.* Caſpar Bauhine calls it, *Feſtuca graminea, jubâ effuſâ*; alſo, *Feſtuca graminea nemoralis latifolia mollis*; Rudbeck, *Feſtuca avenacea ſterilis elatior circa Upſaliam*; Ray, *Gramen avenaceum Dumetorum paniculâ ſparſâ*; Moriſon, *Gramen avenaceum Dumetorum paniculatum majus hirſutum.* It grows common in England, and moſt parts of Europe.

Secalinus. 2. Field Brome-Graſs is, *Bromus paniculâ patente, ſpiculis ovatis, ariſtis rectis.* Van Royen calls it, *Feſtuca culmo paniculato, ſpicis compreſſo-ovatis*; Caſpar Bauhine, *Feſtuca graminea, glumis hirſutis*; and Moriſon, *Gramen avenaceum ſegetale majus, glumâ turgidiore.* In the former edition of the *Species Plantarum* this ſpecies is titled, *Bromus paniculâ erectâ coarctatâ.* It grows naturally in England, and moſt parts of Europe.

Mollis. 3. Soft Brome-Graſs is, *Bromus paniculâ erectiuſculâ, ſpicis ovatis, ariſtis rectis, foliis molliſſimè villoſis.* Tournefort calls it, *Gramen avenaceum, locuſtis villoſis anguſtis candicantibus & ariſtatis*; Moriſon, *Gramen avenaceum pratenſe, paniculâ ſquamatâ et villoſâ*; and Ray, *Feſtuca avenacea hirſuta, paniculis minus ſparſis.* It grows naturally in dry places in moſt of the ſouthern parts of Europe.

4. Barren Brome-Graſs, or Wild Oats, is, *Bromus paniculâ patulâ, ſpicis oblongis diſtichis, glumis ſubulato-ariſtatis.* Sterilis. Caſpar Bauhine calls it, *Feſtuca avenacea ſterilis elatior*; and Tournefort, *Gramen avenaceum, paniculâ ſparſâ, locuſtis majoribus & ariſtatis.* It grows naturally in woods, hedges, by the borders of fields and way-ſides in England, and moſt countries of Europe.

5. Wall Oats is, *Bromus paniculâ nutante, ſpiculis linearibus.* Tectorum. Tournefort calls it, *Gramen murorum, ſpicis pendulis anguſtioribus*; Ray, *Feſtuca avenacea ſterilis, ſpicis erectis*; and Moriſon, *Feſtuca avenaceâ ſterilis, pedicellis brevioribus et ſpicis erectis.* It grows naturally on walls and in dry places in England, and moſt countries of Europe.

6. Greater Barren Brome-Graſs is, *Bromus paniculâ patulo-erectâ, ſpiculis linearibus: intermediis geminis, pedicellis incraſſatis.* Madritensis. Barrelier calls it, *Bromus ſterilis, erectâ paniculâ, major*; and Scheuchzer, *Gramen bromoides pumilum, locuſtis erectis majoribus ariſtatis.* It grows naturally in England, and the South of Europe.

7. Red Brome-Graſs is, *Bromus paniculâ faſciculatâ, ſpiculis ſubſeſſilibus villoſis, ariſtis erectis.* Rubens. John Bauhine calls it, *Gramen paniculâ molli rubente.* It grows naturally in Spain.

8. Racemoſe Brome-Graſs is, *Bromus racemo ſimpliciſſimo, pedunculis unifloris, floribus ſubſexfloris lævibus ariſtatis.* Racemosus. Ray calls it, *Feſtuca avenacea ſpicis ſtrigoſioribus è glumis glabris compactis.* It is a native of England.

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CHAP. LVI.

BROWALLIA.

THERE are two ſpecies of this genus, both of which are Annuals. They are called,

Species. 1. Panama *Browallia.*
2. *Browallia* of Peru.

Deſcription of the Panama Browallia. 1. The Panama *Browallia* riſes with an upright, branching ſtalk to the height of about two feet. The leaves are oval, ſpear-ſhaped, pointed, and placed with footſtalks on the branches. The flowers grow ſingly from the wings of the leaves on long footſtalks: It is a ſingle, funnel-ſhaped petal, irregularly divided at the top, and of various colours, being ſometimes blue, purple, or red, and ſometimes tints of all theſe colours will at once diſplay themſelves in the ſame flower. It flowers the latter end of the ſummer, and very rarely brings its ſeeds to perfection in our gardens.

and Browallia of Peru. 2. *Browallia* of Peru. This ſpecies hath a thick, large, rigid, branching ſtalk, that will grow to be a yard or four feet high. The leaves are oval, ſpear-ſhaped, and placed on footſtalks on the branches. The flowers come out from the wings of the leaves, and ſometimes each ſupports one flower only; though at other times five or ſix flowers will grow together on the ſame footſtalk: They are of a deep-blue or violet colour, will be in blow in Auguſt or September, and but very rarely ripen their ſeeds with us.

Method of propagation. Theſe plants are raiſed by ſowing of the ſeeds in pots in the ſpring, and immediately plunging them into a moderate hot-bed. When they come up, you muſt give them as much air as poſſible, and frequently ſprinkle them with water. When the plants are about three or four inches high, each muſt have a ſeparate ſmall pot, which muſt be again plunged into a ſecond hot-bed. At this time they muſt be watered and ſhaded until they have taken root; and the watering muſt be conſtantly repeated as you find occaſion. When the heat of this ſecond hot-bed abates, a third muſt be provided; and at your removing them into this, give them a plentiful watering, and always ſhade the glaſſes in the middle of the day. Water them frequently, raiſe the glaſſes conſtantly, and daily harden them more and more to endure the open air. In June they may be ſet abroad, turning the mould out of the pots with the roots into the places where they are deſigned to flower; and if theſe rules have been duly obſerved, you may expect them to ſhew their bloom in July. They will often continue flowering until October. Sometimes they will perfect their ſeeds when planted abroad; but as in general they ſeldom flower before the end of Auguſt, and the ſeeds rarely ripen in the open air, the beſt way will be to remove a few plants of each ſpecies into the ſtove, where you will be pretty ſure of obtaining good ſeeds for a ſucceſſion.

Titles.

1. The firſt ſpecies is titled, *Browallia pedunculis unifloris.* It grows naturally in Panama.

Demiſſa.

2. The ſecond ſpecies is titled, *Browallia pedunculis unifloris multiflorìſque.* It grows naturally in Peru.

Elata.

Claſs and order in the Linnæan ſyſtem.

Browallia is of the claſs and order *Didynamia Angioſpermia*; and the characters are,

The characters.

1. Calyx is a ſhort, monophyllous, tubulous, permanent perianthium, indented in five unequal parts at the top.

2. Corolla is a ſingle, infundibuliforme petal. The tube is cylindrical, and twice the length of the calyx. The limb is plane, and divided into five roundiſh, emarginated ſegments, the upper of which is larger than the other four, which are equal.

3. Stamina. There are four filaments in the mouth of the flower: The two upper ones are very ſhort; the under are broad, long, coloured, and reflexed. The antheræ are connivent, and incurved.

4. Pistillum conſiſts of an oval, retuſe germen, a filiforme ſtyle the length of the tube of the corolla, and a thick, four-lobed ſtigma.

5. Pericarpium is an oval, obtuſe capſule of one cell, opening four different ways at the top.

6. Semina. The ſeeds are numerous, and ſmall.

CHAP. LVII.

BRYONIA, BRIONY.

THERE is one ſpecies of this genus that is an Annual, and requires nice management to bring its fruit (which is its greateſt beauty) to perfection. It is called The Spotted Briony of Crete. There are ſeveral varieties of it, and all riſe with weak, rambling ſtalks, laying hold of every-thing that is near them.

Spotted Briony of Crete deſcribed.

The leaves are large, palmated, and their upper ſurface has many callous ſpots. The flowers may be brought to ſhew themſelves in July or Auguſt; but their fruit, in which the greateſt beauty of this plant conſiſts, will ſeldom be brought to perfection, unleſs the plants are removed into the ſtove, where they will make a pretty appearance among other plants, ſome being of a deep-red colour, ſome white, others variegated, ſome oval, and ſome round.

Culture.

They are all raiſed by ſowing the ſeeds on a moderate hot-bed in March. When the plants are of ſize to remove, each muſt be ſet in a ſeparate pot; and care muſt be taken, on the removal, to have as much earth as poſſible at the root of each plant. When the buſineſs is done, the pots muſt be plunged into a ſecond hot-bed, at which time they muſt be watered; and this muſt frequently be repeated afterwards, and air muſt be given them, by raiſing of the glaſſes, as there ſhall be occaſion. You will ſoon find your plants will get rambling; ſo that you may either harden them by degrees to the open air, and ſet them abroad againſt a wall, training their branches up to it; or you may remove them into the ſtove, and train their branches up to the back-part of it, where they will have a pretty effect, and be ſure of bringing their ſeeds to perfection.

Titles.

This ſpecies is titled, *Bryonia foliis palmatis ſuprà calloſo-punctatis.* Caſpar Bauhine calls it, *Bryonia Cretica maculata*; and John Bauhine, *Bryonia alba maculata.* It grows naturally in Crete.

Cretica.

CHAP. LVIII.

BUNIAS.

THE two annual ſpecies of this genus that preſent themſelves for this place, are,

Species.

1. The Montpelier *Bunias*,—and
2. The Italian *Bunias*.

Deſcription of the Montpelier

1. The Montpelier *Bunias* has many weak, ſpreading branches, that naturally incline towards the ground. The leaves are deeply ſinuated or divided into many parts, and their colour is bluiſh. The flowers grow ſingly from the wings of the leaves toward the tops of the branches; they are of a pale colour, will be in blow in July, and are ſucceeded by ſhort, four-cornered, double-creſted pods, containing one or two ripe ſeeds, in the autumn.

and the Italian Bunias.

2. The Italian *Bunias*. The leaves of this ſpecies are oblong, hairy, deeply ſinuated, and the radical ones ſpread themſelves on the ground. Among theſe ariſe a few branching ſtalks to the height of about a foot and a half, which are garniſhed with oblong, rough, indented leaves near the bottom. The flowers grow from the ſides of the branches towards the top, have ſhort ſtootſtalks, and are placed alternately; they are of a purple colour, will be in blow in July or Auguſt, and are ſucceeded by ſmooth, oval, pointed pods, containing one or two roundiſh ſeeds, which will be ripe in the autumn.

Method of propagation.

Theſe ſpecies are beſt propagated by ſowing of the ſeeds in the autumn, ſoon after they are ripe, in the places where they are deſigned to remain. They love a moiſt, ſhady ſituation; and after they come up, they will call for no trouble, except keeping them clean from weeds, and thinning them where they are too cloſe. Seeds ſown in the autumn will produce plants that will flower in July or Auguſt; whereas thoſe ſown in the ſpring ſeldom flower before the end of Auguſt or September; ſo that unleſs the autumn proves favourable, they do not always perfect their ſeeds.

Titles.

Erucago.

1. The firſt ſpecies is titled, *Bunias ſiliculis tetragonis, angulis bicriſtratis.* In the *Hortus Upſal.* it is termed, *Bunias foliis antrorſum ſinuatis*; in the *Hortus Cliffort. Bunias.* Caſpar Bauhine calls it, *Erucago Monſpeliaca, ſiliqua quadrangula echinata.* It grows naturally in moiſt places near Montpelier.

Cakile.

2. The ſecond ſpecies is titled, *Bunias ſiliculis ovatis lævibus ancipitibus.* Sauvages calls it, *Crambe foliis ſucculentis linearibus pinnato-dentatis.* In the *Hortus Cliffort.* it is termed, *Raphanus ſiliquis ovatis angulatis monoſpermis.* Caſpar Bauhine calls it, *Eruca maritima Italica, ſiliqua haſtæ cuſpidi ſimili.* It grows naturally near the ſea-ſhores in Europe, Africa, and America.

CHAP. LIX.

BUPHTHALMUM, OX-EYE.

THE *Aſteriſcus* of old botaniſts is now comprehended in this genus; and there are two ſpecies of it, which are Annuals, and more generally known by that name than any other. Theſe are uſually called,

Species.

1. The Annual Spaniſh *Aſteriſcus*.
2. The Sweet-ſcented Portugal *Aſteriſcus*.

Deſcription of Annual Spaniſh

1. Annual Spaniſh *Aſteriſcus*. There are ſeveral varieties of this ſpecies that differ in the ſize of the plants, leaves, and flowers, ſome of which will grow to little better than a foot high, whilſt others will grow to upwards of a yard. The ſtalk ſends forth branches in the alternate way, which uſually exceed the main ſtem in height. The leaves alſo grow alternately, are ſpear-ſhaped, hairy, entire, and embrace the ſtalk with their baſe. The flowers are produced from the extremities of the branches on ſhort footſtalks; the calyx of each conſiſts of about ſeven rigid, acute leaves, which ſpread themſelves beyond the flower. The flower itſelf is radiated, of a bright-yellow colour, will be in blow in June or July, and ripen the ſeeds in the autumn.

and Sweet-ſcented Portugal Aſteriſcus

2. Sweet-ſcented Portugal *Aſteriſcus*. This is a ſmall plant, ſeldom growing higher than above a foot; though it ſends forth many branches near the bottom which are produced in the alternate way. The leaves alſo are placed alternately; they are oblong, hairy, obtuſe, and, having no footſtalks, ſit cloſe to the branches. The flowers are radiated, yellow, and finely ſcented: they appear in June or July, and ripen their ſeeds in the autumn.

Varieties of it.

There are two or three varieties of this ſpecies, one of which has fine cream-coloured flowers; the others are of the different tints of yellow, &c. &c.

Culture.

In the propagation of theſe ſpecies, no more trouble need be beſtowed than to ſow the ſeeds in the beginning of April in the places where they are to remain. Many of theſe plants ſhould be ſet together to make a ſhow, and their diſtance from each other ſhould be according to their ſize. The ſecond ſpecies may be allowed about a foot; but the former a foot and a half; and the talleſt growing varieties of it two feet diſtance from each other. Previous to the ſowing, therefore, let the ground be well dug, and the ſurface made ſmooth and even. Let a few ſeeds be ſown at the above diſtances, covering them down with about a quarter of an inch of fine mould; and place a ſtick by each part, to direct you to the places where you may expect them to come up. If your ſeeds are good, they will ſoon appear; and where more than two or three plants come up together, the weakeſt muſt be pulled out, leaving only that number by each mark to flower, as they would otherwiſe be crowded, and not appear in their natural eaſe and beauty. Weeds, as they ariſe among them, muſt be conſtantly pulled up; and if the ſeaſon proves favourable, your plants will ſhew their bloſſom by the end of June; though, in general, it is obſervable, they do not flower before the end of July, and often not until Auguſt; ſo great a difference will propitious or retarding ſeaſons make on plants ſown on one ſort of ſoil, and at the ſame time.

Titles.

Spinoſum.

1. The Annual Spaniſh *Aſteriſcus* is titled, *Buphthalmum calycibus acutè folioſis, foliis alternis lanceolatis amplexicaulibus integerrimis, caule herbaceo.* Caſpar Bauhine calls it, *Aſter luteus, foliis ad florem rigidis*; and Barrelier, *Aſter legitimus, Cluſii alter ſive ſpinoſus luteus.* It grows naturally in Spain, Italy, France, and in the Eaſt.

Aquaticum.

2. Sweet-ſcented Portugal *Aſteriſcus* is titled, *Buphthalmum calycibus obtuſè folioſis ſeſſilibus axillaribus, foliis alternis oblongis obtuſis, caule herbaceo.* Breynius calls it, *Chryſanthemum conyzoides Luſitanicum*; and Boerhaave, *Aſteriſcus annuus Luſitanicus odoratus.* It grows naturally in Portugal and Crete.

CHAP. LX.

BUPLEURUM, HARE's-EAR.

THERE are ſeveral ſpecies of *Bupleurum* that grow naturally in the wild and uncultivated parts of the world, and are rarely admitted into any but botannic gardens. Such perſons, however, as are diſpoſed to have ſome of the ſpecies among their Annuals, may take,

Species.

1. The Common Thorough-wax.
2. The Leaſt Hare's-ear.
3. The Italian Hare's-ear.
4. The Spaniſh Hare's-ear.
5. The French Hare's-ear.

Common Thorough-wax deſcribed.

1. The Common Thorough-wax grows naturally in many parts of England; and there are ſeveral varieties of it, ſuch as the Curled-leaved, the Double-flowered, &c. The ſtalk is ſlender, round, brittle, and branching. The leaves are oval, and ſurround the ſtalk at their baſe; ſo that the branches appear to be thruſt through them. The flowers terminate the branches in umbels, are of a pale-yellow colour, will be in blow in May and June, and ripen their ſeeds in Auguſt.

Deſcription of the Leaſt,

2. The Leaſt Hare's-ear is alſo of Engliſh growth, but nothing near ſo common as the former. It is a low plant; and the leaves are very narrow, ſharp-pointed, and ſit cloſe without any footſtalks. The flowers grow in alternate umbels, appear in June and July, and ripen their ſeeds in Auguſt.

Italian,

3. Italian Hare's-ear. This ſpecies grows naturally in the vineyards and other parts of Italy. The ſtalk is very branching, and angular; the leaves are narrow, and ſpear-ſhaped; and the flowers are produced in compound umbels in June and July, and ripen their ſeeds in September.

Spaniſh,

4. Spaniſh Hare's-ear. The ſtalks are angular, and branching; the leaves are ſpear-ſhaped, and narrow; and the flowers grow both in compound and ſimple umbels in June and July, and ripen their ſeeds in September.

and French Hare's-ear.

5. The French Hare's-ear riſes with an upright, branching ſtalk, to the height of four or five feet. The leaves are narrow, graſſy, and ſmooth. The flowers are produced in compound umbels in June and July, are of a yellow colour, and are uſually ſucceeded by ripe ſeeds in autumn.

Culture.

The beſt way of raiſing all theſe ſpecies is by ſowing of the ſeeds in the places where they are to remain, ſoon after they are ripe; for they will then flower earlier, and be ſurer of growing, than if kept until ſpring. After the plants come up, nothing is to be done, except thinning them where they appear too cloſe, and keeping them conſtantly clean from weeds. They will then flower in perfection, and, if permitted, ſcatter their ſeeds, which will come up, and continue the ſucceſſion without further trouble.

Titles.

Rotundifolium.

1. The Common Thorough-wax is titled, *Bupleurum involucris univerſalibus nullis, foliis perfoliatis.* In the *Hortus Cliffort.* it is termed, *Bupleurum foliis ovatis perfoliatis.* Caſpar Bauhine calls it, *Perfoliata vulgatiſſima arvenſis*; and Dodonæus, *Perfoliata.* It grows naturally among corn in England and moſt of the ſouthern countries of Europe.

Tenuiſſimum.

2. The Leaſt Hare's-ear is titled, *Bupleurum umbellis ſimplicibus alternis pentaphyllis ſubtrifloris.* In the *Hortus Cliffort.* it is termed, *Bupleurum foliis linearibus acutis ſeſſilibus.* Columna calls it, *Bupleurum tertium minimum*; and Caſpar Bauhine, *Bupleurum anguſtiſſimo folio.* It grows naturally in England, Italy, and Germany.

Odontites.

3. The Italian Hare's-ear is titled, *Bupleurum involucris*

involucris pentaphyllis acutis, univerſali triphyllo, floſculo centrali altiore, ramis divaricatis. Haller calls it, *Bupleurum foliis gramineis, calyce peculiari quinquefido ariſtato rigido*; Caſpar Bauhine, *Perfoliata minor anguſtifolia, bupleuri folio*; and Columna, *Perfoliata minima, bupleuri folio.* It is a native of Italy.

Semicom=positum. 4. Spaniſh Hare's-ear is titled, *Bupleurum umbellis compoſitis ſimulque ſimplicibus.* It grows naturally in Spain.

Junce=um. 5. The French Hare's-ear is titled, *Bupleurum caule erecto paniculato, foliis linearibus, involucris triphyllis, involucellis pentaphyllis.* Magnol calls it, *Bupleurum annuum anguſtifolium*; and Ray, *Bupleurum minus anguſtifolium Monſpelienſe.* It is a native of France and Italy.

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C H A P. LXI.

CACALIA, FOREIGN COLT'S-FOOT.

Species. THE Annuals of this genus are,

1. The Perfoliate *Cacalia*, or Indian Groundſel.
2. *Sonchus*-leaved *Cacalia*.

Deſcription of the Perfoliate. 1. The Perfoliate *Cacalia.* The ſtalk is upright, and undivided. The leaves are elliptical, ſmooth, crenated, and in ſome varieties marked with numerous black ſpots. The flowers are produced from the ends of the ſtalks in September; but by the aſſiſtance of a hot-bed in bringing the plants forward in the ſpring, they may be made to flower in June or July, and perfect their ſeeds ſoon after.

and Sonchus-leaved Cacalia. 2. *Sonchus*-leaved *Cacalia.* The ſtalk of this ſpecies is herbaceous. The leaves are lyre-ſhaped, indented, and embrace the ſtalk with their baſe. The flowers are produced from the ends of the branches in Auguſt, and the ſeeds ripen in September.

Varieties. There are three varieties of this ſpecies that are pretty permanent, called,

The Dwarf Sow-thiſtle-leaved *Cacalia.*
The Larger Purple-flowered *Cacalia.*
The Small Yellow-flowered *Cacalia.*

Culture. Theſe plants are eaſily propagated by ſowing of the ſeeds in a border of fine mould in the ſpring, covering them hardly a barley-corn's breadth deep. When they come up, they will require no trouble, except thinning them where they appear too cloſe, and now-and-then affording them water in very dry weather. They will then flower in the autumn, and frequently perfect their ſeeds.

In order to have them earlier in blow, give the ſeeds a gentle hot-bed at firſt; and in May, making choice of a moiſt day, let them be taken up, with a ball of earth to each root, and planted in the places where they are deſigned to remain. Plants thus managed will flower earlier in the ſummer, and perfect their ſeeds; which being crowned with down, are often conveyed by the wind all over the garden, from which frequently ariſe plants that will be ſtronger and better than any raiſed from the regularly ſowing of the ſeed.

Titles. Porri=phyllum. 1. The Perfoliate *Cacalia*, or Indian Groundſel, is titled, *Cacalia caule herbaceo indiviſo, foliis ellipticis ſubcrenatis.* In the *Hortus Cliffort.* it is termed, *Porophyllum foliis ellipticis.* Plumier calls it, *Tagetis foliis integris perforatis*; Moriſon, *Senecio Indicus, atriplicis folio glabro*; and Plukenet, *Chryſanthemum Americanum fruteſcens, balſaminæ foliis nigris maculis punctatis.* It grows naturally in America.

Sonchi=folia. 2. *Sonchus*-leaved *Cacalia* is titled, *Cacalia caule herbaceo, foliis lyratis amplexicaulibus dentatis.* In the *Flora Zeyl.* it is termed, *Kleinia caule herbaceo, foliis lyratis.* Plukenet calls it, *Senecio maderaſpatanus, ſinapios folio, floribus parvis luteis*; Burman, *Chondrilla Zeylanica minor marina, folio ſinapios*; Rhumphius, *Sonchus amboinenſis*; and Petiver, *Tagolina luzonum, flore purpureo.* It grows naturally in Ceylon and China.

C H A P.

CHAP. LXII.

CALENDULA, MARIGOLD.

THE Annuals that preſent themſelves under this head, are,

Species.
1. Pot Marigold.
2. Field Marigold.
3. Jeruſalem Marigold.
4. Cape Leafy-ſtalked Marigold.
5. African Heart-ſeed, or Leafy-ſtalked Marigold.
6. Æthiopian Naked-ſtalked Marigold.

Deſcription of Pot Marigold. 1. Pot Marigold. This ſpecies, in its common and ſingle ſtate, is very little regarded, otherwiſe than as it is an excellent pot-herb. But there are varieties of it that are cultivated for the beauty of their flowers as well as for kitchen and medicinal uſes; ſuch as,

Varieties.
The Common Double-flowered Marigold.
The Giant or Monſtrous Marigold.
The Single Lemon-coloured,
The Double Lemon-coloured,
The Small Proliferous,—and
The Large Proliferous Marigold.

Theſe are the valuable ſingularities of this ſpecies. In order to continue them in their perfection of beauty, the ſorts ſhould be ſtationed in ſeparate parts of the garden; and when they come into flower, if any ſingle, ſemi-double, and others of bad property appear, they ſhould be immediately pulled up, leaving the largeſt and the fineſt plants of the different ſorts to produce the ſeeds; otherwiſe the farina of the bad plants would impregnate the other, and thus bad ſeeds might probably be collected from the beſt flowers. The ſeeds of both the ſorts of Proliferous Marigolds ſhould be collected from the large center plants, and not thoſe that grow from the calyx; ſo that when the beſt of theſe are marked for ſeeds, it would be adviſeable to cut off all the ſide-flowers, the ſeeds of which have a much greater tendency to degenerate than thoſe which are produced from the center plant.

With theſe precautions all theſe varieties may be continued in perfection. You may ſow the ſeeds any time in the autumn or ſpring; and after they have once flowered, they will ſcatter their ſeeds, which will come up, and continue the ſucceſſion, without further trouble, except pulling up the worſt ſorts when they come into blow, as before. They come into flower in June, and continue the ſucceſſion of bloom until the froſt ſtops them.

Field, 2. Field Marigold. This is a low plant, that divides into ſeveral ſlender branches, which grow near the ground. The leaves are narrow, ſpear-ſhaped, hairy, and embrace the ſtalk with their baſe. The flowers are ſmall, and of a pale-yellow colour; they grow from the ends of the branches on long, naked footſtalks, appear in June, and continue the ſucceſſion of bloom until the froſt ſtops them. The beſt time for gathering the ſeeds is in Auguſt and September; and if they are permitted to ſcatter, they will produce you plants enough without any trouble.

Jeruſalem 3. Jeruſalem Marigold. This is a low-branching plant. The leaves are like the former, but free from hairs, and have a rough border. The flowers terminate the branches in June, July, &c. and ripen their ſeeds in Auguſt and September.

Cape Leafy-ſtalked, 4. Cape Leafy-ſtalked Marigold. The ſtalks are about half a foot long, very leafy, and decline towards the ground. The leaves are ſpear-ſhaped, ſinuated, indented, and of a pale-green colour. The flowers are very beautiful, and grow ſingly from the ends of the branches; the rays are of a violet colour on the outſide, but whitiſh within, and the bottom of the flower is purple. They begin flowering in June, and often continue in ſucceſſion until autumn; before which time good ſeeds from the firſt-blown flowers may be gathered.

African, 5. African Heart-ſeed. The ſtalks are moderately thick, very full of leaf, and about a foot long. The leaves are ſpear-ſhaped, and indented. The flowers are ſmall, grow on very ſlender foot-ſtalks, and are of the ſame colour with the former; they come out in June, and continue flowering all ſummer.

and Æthiopian Naked-ſtalked Marigold deſcribed 6. Æthiopian Naked-ſtalked Marigold. The ſtalks are weak, about ſix or eight inches long, and garniſhed with few or no leaves. The leaves are ſpear-ſhaped, and deeply indented. The flowers grow on ſlender footſtalks; the outſide of the rays are of a pale-purple colour, but white within, and the center of the flower is of a dark colour; they come out in June, and continue the blow moſt part of the ſummer. The ſeeds of theſe two ſorts are flat, and ſhaped like an heart.

Propagation. It is impoſſible to err in the culture of any of theſe ſorts. Sow the ſeeds any time of the autumn or ſpring, and they will grow, flower, and produce ſeeds, which, if permitted to ſcatter, will keep up the ſtock themſelves.

Titles. 1. Common or Pot Marigold is titled, *Calendula ſeminibus cymbiformibus muricatis incurvatis omnibus*. In the *Hortus Cliffort.* it is termed, *Calendula ſeminibus radii cymbiformibus echinatis*. Caſpar Bauhine calls it, *Caltha vulgaris*; and he expreſſes the various ſorts with ſuitable titles; ſuch as, *Caltha polyanthos major*; *Caltha floribus reflexis*; *Caltha prolifera, majoribus floribus, &c.* It grows naturally in ſeveral of the ſouthern countries of Europe. Officinalis.

2. Field Marigold is, *Calendula ſeminibus cymbiformibus muricatis incurvatis: extimis erectis pratenſis*. Caſpar Bauhine calls it, *Caltha arvenſis*; and John Bauhine, *Caltha minima*. It is found in moſt countries of Europe. Arvensis.

3. Jeruſalem Marigold is, *Calendula ſeminibus urceolatis obovatis lævibus, calycibus ſubmuricatis*. It grows naturally in Paleſtine. Sancta.

4. Cape Leafy-ſtalked Marigold is, *Calendula foliis lanceolatis ſinuato denticulatis, caule folioſo, pedunculis filiformibus*. In the *Hor. Cliff.* it is termed, *Calendula ſeminibus radii obſoletè ſerratis; diſci cordatis*. Van Royen calls it, *Calendula foliis dentatis*; Herman, *Calendula humilis Africana, flore intus albo, foris violaceo ſimplici*; and Moriſon, *Caltha* Pluvialis.

Caltha Africana, flore intus albo, extus ferrugineo. It grows naturally in Æthiopia.

Hybrida.

5. African Heart-ſeeded Marigold is, *Calendula foliis lanceolatis dentatis, caule folioſo, pedunculis ſuperne incraſſatis.* Van Royen calls it, *Calendula foliis radicalibus ſinuatis, caulinis ſuperne denticulatis*; Breynius, *Caltha Africana, flore intus albo, foris violaceo, ſemine majore oblongo*; and Vaillant, *Cardiſpermum Africanum pubeſcens, foliis inciſis, parvo flore.* It grows naturally in Æthiopia.

Nudicaulis.

6. Æthiopian Naked-ſtalked Marigold is, *Calendula foliis lanceolatis ſinuato-dentatis, caule ſubnudo.* Herman calls it, *Calendula Africana, foliis ſcabrioſæ argenteæ viridibus*; Commelin, *Bellis florum pediculis pene aphyllis, foliis inciſis*; and Boerhaave, *Caltha Africana, flore intus albo, extus leviter violaceo, ſemine plano cordato.* It grows naturally in Æthiopia.

Claſs and order in the Linnæan ſyſtem. The characters.

Calendula is of the claſs and order *Syngeneſia Polygamia Neceſſaria*; and the characters are,

1. Calyx. The common calyx is ſimple, erect, and compoſed of ſeveral narrow, ſpear-ſhaped ſegments, which are nearly equal.

2. Corolla is radiated. The hermaphrodite florets are numerous in the diſk, and, like thoſe of the calyx, tubular, and cut at the brim into five parts.

The female florets that compoſe the rays are very long, tongue-ſhaped, hairy at the baſe, and indented at the top into three parts.

3. Stamina in the hermaphrodite florets are five very ſhort capillary filaments, with a cylindrical tubular anthera the length of the corollulæ.

4. Pistillum in the hermaphrodites conſiſts of an oblong germen, a filiforme ſtyle hardly the length of the ſtamina, and an obtuſe bifid ſtigma.

The piſtillum of the females conſiſts of an oblong three-cornered germen, a filiforme ſtyle the length of the ſtamina, and two oblong, acuminated, reflexed ſtigmas.

5. Pericarpium. There is none. The calyx becomes connivent, roundiſh, and depreſſed.

6. Semina. The ſeeds are ſingle, large, oblong, incurved, and have angular membranes.

CHAP. LXIII.

CAMPANULA, BELL-FLOWER.

Species.

THE ſpecies of this genus that are either Annuals or Biennials, are,

1. Venus' Looking-glaſs.
2. Leſſer Venus' Looking-glaſs, or Codded Corn Violet.
3. Five-cornered Bell-flower of Thrace.
4. Perfoliate Virginian Bell-flower.
5. Cape Bell-flower.
6. Spaniſh Bell-flower.
7. Tartarean Bell-flower.
8. Coventry Bells.

Venus' Looking-glaſs deſcribed.

1. Venus' Looking-glaſs. This has a moſt branching, diffuſed, angular ſtalk, which will grow to about a foot high. The leaves are of an oval, oblong figure, which grow without footſtalks; and from the baſe of each leaf a freſh branch is produced, all of which are terminated by one fair flower. They are moderately large, of a bright-blue or purple colour, and from the great number of them which will ſhew themſelves in blow at once on the ſame plant, they conſtitute an Annual of the firſt rank among the ſmall-growing kinds. They flower all ſummer and autumn, if the ſeeds are ſown at different times, and produce plenty of good ſeeds, contained in priſmatic capſules.

Variety.

There is a variety of this ſpecies with white flowers, which is much ſought after, though it is of inferior beauty to the other ſorts.

2. Leſſer Venus' Looking-Glaſs, or Codded Corn Violet. The ſtalks are erect, will grow to near a foot high, and ſend forth a few weak ſide-branches near the bottom. The leaves are oblong, crenated, and grow alternately without any footſtalks. The flowers grow from the extremities of the branches; their colour is purple, though they are ſmall, and of very little figure. They may be made to appear at any time, though their uſual months of blow are June and July; and they ripen their ſeeds, contained in priſmatic capſules, in Auguſt.

Five-cornered Bell-flower deſcribed.

3. Five-cornered Bell-flower of Thrace. The ſtalk of this plant is very branching, and grows to half a foot or a foot high; it divides by pairs, and ſometimes a freſh branch ſhoots forth from the center of the diviſions. The leaves are very narrow, and ſharp-pointed; though near the bottom of the ſtalk, they are, as in moſt plants, more broad and obtuſe. The flowers are very large, and grow ſingly from the ends of the branches in long five-leaved cups; their colour is a fine blue, and by different ſowings they may be made to ſhew themſelves from June to November.

Perfoliate Virginian and Cape Bell-flower deſcribed.

4. Perfoliate Virginian Bell-flower. The ſtalk of this plant branches very little, and will grow from half a foot to a foot high, according to the goodneſs of the ſoil in which it is ſtationed. The leaves are heart-ſhaped, ſmooth, indented, and embrace the ſtalk with their baſe. The flowers grow many together from the wings of the leaves, almoſt the whole length of the ſtalk; they are ſmall, and ſit cloſe without any footſtalk. Their colour is a blue or purple, and they flower and perfect their ſeeds the greateſt part of the ſummer and autumn.

5. Cape Bell-flower. The ſtalk is hairy, rounded, and divides into a number of branches, ſo as to

form a tolerably buſhy plant. The leaves are ſpear-ſhaped, rough, indented, of a lively-green colour, and have no footſtalks. The flowers grow ſingly from the ends of the branches, or rather on long footſtalks all over the plant; they are large, of a violet colour, and have ſmall hairy cups. They will be in full blow in July and Auguſt, and ripen their ſeeds in the autumn.

Spaniſh

6. Spaniſh Bell-flower. This plant hath a quadrangular, rough, ſpreading, forked ſtalk. The leaves are oblong, jagged or indented, and grow oppoſite without any footſtalks. The flowers are produced oppoſite from the joints or diviſions of the branches; they are large, and of a fine blue colour; they will be in blow in July and Auguſt, and ripen their ſeeds in the autumn.

and Tartarean Bell-flower deſcribed.

7. Tartarean Bell-flower. The ſtalks are weak, and ſlender. The lower leaves are moderately broad, and ſpear-ſhaped; thoſe higher on the ſtalks are narrow, and acutely ſerrated. The flowers are ſmall, and hang drooping in kind of panicles; they appear in May or June, and ripen their ſeeds in Auguſt.

Coventry Bells deſcribed.

8. Coventry Bells. Theſe are well-known plants, which make a great ſhew in a garden. The ſtalk is robuſt, hairy, furrowed, branching, and will grow to be two feet high. The radical leaves are oblong, rough, hairy, ſerrated, and pointed; thoſe on the ſtalks are narrower, and grow alternately. The flowers are large, ventricoſe, numerous, and form themſelves into a kind of pyramid. They appear in June and July, and ripen their ſeeds in Auguſt.

Varieties.

Of this ſpecies there are the following beautiful varieties, viz.

The Blue,
The Purple,
The White,
The Variegated,
The Double-flowered.

They are all of them noble-ſhowing plants; but the two laſt ſorts, being leaſt common, are moſt ſought after.

Culture.

The firſt four ſorts are propagated by ſowing the ſeeds in rows or patches at different times of the year. The firſt ſowing ſhould be in the autumn, and ſuch plants will flower the May following; the next ſhould be early in the ſpring, and the plants will ſucceed the former; a third ſowing may be made the end of March, another the end of April, and another the laſt week in May, and thus may your ſhow of flowers be continued until the end of autumn.

Any ſoil or ſituation will do for them; and in ſowing the ſeeds, nothing more need be done than to ſcatter them thinly, and rake them in. When the plants come up too cloſe, draw out the weakeſt, keep them clean from weeds, and this is all the culture they will require. Seeds may be gathered from the firſt, ſecond, or third-ſown plants for a ſucceſſion; though if they are permitted to ſcatter, plenty of young plants will ariſe, which will come up from one or other of them, and afterwards ſhew themſelves in blow at all times of the year, except in the depth of a ſevere winter.

Such chance plants for the moſt part flower ſtronger than thoſe which have been regularly ſown by the hand; and with regard to them, nothing more need be done than thinning them to proper diſtances, and keeping them clean from weeds.

The fifth and ſixth ſorts ſhould be raiſed on a moderate hotbed in March, and when they are of ſize to tranſplant, ſhould be removed carefully with a ball of earth to each root, on ſome moiſt day, to a bed of light, ſandy, freſh earth, in the flower-garden. They muſt be watered and ſhaded until they have taken root; and in the autumn, when they are in flower, if very wet weather ſhould happen, they muſt be covered with hand-glaſſes, not only to continue the flowers in longer beauty, but the more effectually to procure the ſeed for a ſucceſſion.

The ſeventh and eighth ſorts are Biennials. The ſeeds of theſe ſorts ſhould be ſown in April, in the places where they are to remain; they will flower ſtronger than if they were removed. When they come up, they ſhould be thinned to proper diſtances, kept clean from weeds, and they flower early the ſummer following. If neceſſity requires it, they bear tranſplanting well, ſo that any time in the ſummer or autumn they may be made to adorn any particular part of the flower-garden, as it ſhall be wanted.

The roots of the Coventry Bells are eſculent, and admired by ſome for their pleaſant taſte; they are frequently boiled, and eat like Rampions, to which they are related.

Titles.

1. Venus' Looking-glaſs is titled, *Campanula caule ramoſiſſimo diffuſo, foliis oblongis ſubcrenatis, calycibus ſolitariis corollâ longioribus, capſulis priſmaticis.* In the *Hortus Cliffort.* it is termed, *Campanula caule ramoſo, foliis ovato-oblongis crenatis.* Caſpar Bauhine calls it, *Onobrychis arvenſis, ſive campanula arvenſis erecta.* It grows naturally among corn in many of the ſouthern countries of Europe. Speculum.

2. Leſſer Venus' Looking-glaſs, or Codded Corn Violet, is, *Campanula caule baſi ſubramoſo ſtricto, foliis oblongis crenatis, calycibus aggregatis corollâ longioribus, capſulis priſmaticis.* Moriſon calls it, *Campanula arvenſis minima erecta*; and Ray, *Speculum Veneris minus.* It grows naturally among the corn in many parts of England. Hybrida.

3. Five-cornered Bell-flower of Thrace is, *Campanula caule ſubdiviſo ramoſiſſimo, foliis linearibus acuminatis.* Tournefort calls it, *Campanula pentagonia, flore ampliſſimo, Thracica*; and Ray, *Speculum Veneris, flore ampliſſimo, Thracicum.* It is a a native of Thrace. Pentagonia.

4. Perfoliate Virginian Bell-flower is titled, *Campanula caule ſimplici, foliis cordatis dentatis amplexicaulibus, floribus ſeſſilibus aggregatis.* In the *Hortus Cliffort.* it is termed, *Campanula caule ſimpliciſſimo, foliis amplexicaulibus.* Moriſon calls it, *Campanula pentagonia perfoliata.* It is a native of Virginia. Perfoliata.

5. Cape Bell-flower is, *Campanula foliis lanceolatis dentatis hiſpidis, pedunculis longiſſimis, capſulis ſtrigoſis.* Commelin calls it, *Campanula Africana annua hirſuta, latis ſerratiſque foliis, flore magno violaceo.* It grows naturally at the Cape of Good Hope. Capenſis.

6. Spaniſh Bell-flower is, *Campanula caule dichotomo, foliis ſeſſilibus utrinque dentatis, floralibus oppoſitis.* Lœfling calls it, *Campanula caule quadrangulo patulo ſcabro, calycibus ſeſſilibus axillaribus corollæ tubuloſæ æquantibus*; Caſpar Bauhine, *Rapunculus minor, foliis inciſis*; John Bauhine, *Alſine oblongo folio ſerrato, flore cæruleo.* It grows naturally in Spain, Italy, and France. Erinus.

7. Tartarean Bell-flower is, *Campanula foliis lanceolatis: caulinis acutè ſerratis, floribus paniculatis nutantibus.* Amman calls it, *Campanula urticæ foliis* Lilifolia.

foliis glabra, floribus minoribus pendulis. It grows naturally in Tartary and Siberia.

Medium. 8. Coventry Bells is, *Campanula capſulis quinquelocularibus obtectis, caule ſimplici erecto folioſo, floribus erectis.* In the *Hortus Cliffort.* it is termed, *Campanula calycibus à tergo lamellis quinquenotatis.* Caſpar Bauhine calls it, *Campanula hortenſis, folio & flore oblongo*; and Dodonæus, *Viola Mariana.* It grows naturally in Germany and Italy.

C H A P. LXIV.

CANNABIS, HEMP.

THERE is only one real ſpecies of *Cannabis*, though many fancied ones, which go by the various names of,

Species.
1. Manured Hemp.
2. Male Hemp.
3. Female Hemp.
4. Wild Hemp, &c.

Theſe are all well-known plants, and a few of them only ought to be admitted to the out-ſkirts of the pleaſure-garden, to be ready at hand for obſervation.

Culture. The management of Hemp is a branch of huſbandry in ſome parts, particularly in Lincolnſhire, where it is raiſed in great plenty for the bark, which affords cordage, coarſe cloth, &c.

The land ſhould be very fat, deep, and made fine by good ploughing and harrowing, and the ſeeds ſhould be ſown the beginning of April. If the land is very rich, two buſhels of ſeeds will be ſufficient to ſow an acre; but if rather otherwiſe, two buſhels and a half, or even three buſhels, ought to be uſed.

When the plants come up, they ſhould be hoed in the manner of turneps, leaving them a foot diſtance from each other every way. This hoeing ſhould be performed in dry weather, the more effectually to deſtroy the weeds; and if it be found neceſſary, a ſecond hoeing down of the weeds muſt be had; for they muſt always be kept under by the hoe, until the Hemp gets ſo ſtrong as to be able to keep them down itſelf.

Hemp is gathered at two different times, in Auguſt, and the beginning of October. The male plants are gathered firſt; and from the latter gathering, which conſiſts of the female plants, the ſeeds are collected. After they are gathered, let them be bound in bundles, laid in the ſun to dry, and then ſtacked up to be ready to be thraſhed out for uſe. It is this ſeed that affords the oil, and a good crop will yield near three quarters of ſeed to an acre.

Hemp is a great impoveriſher of ground; ſo that a repetition of it on the ſame ſpot muſt not often be made, if you would expect a crop.

Titles. Sativa. There being no other ſpecies of this genus, it ſtands ſimply with the name *Cannabis.* Caſpar Bauhine calls it, *Cannabis ſativa*; alſo, *Cannabis erratica*; Dalechamp, *Cannabis mas*; and *Cannabis femina.* It grows naturally in India.

Claſs and order in the Linnæan ſyſtem. *Cannabis* is of the claſs and order *Dioecia Pentandria*; and the characters are,

I. Male Flowers.

The characters. 1. CALYX is a perianthium divided into five oblong, acuminated, obtuſe, concave ſegments.

2. COROLLA. There is none.

3. STAMINA are five very ſhort capillary filaments, with ſquare, oblong antheræ.

II. Female Flowers.

1. CALYX is a monophyllous, oblong, pointed, permanent perianthium, opening longitudinally on one ſide.

2. COROLLA. There is none.

3. PISTILLUM conſiſts of a very ſmall germen, and two long awl-ſhaped ſtyles, having acute ſtigmas.

4. PERICARPIUM is exceeding ſmall. The ſeed is encloſed in the calyx.

5. SEMEN. The ſeed is a round depreſſed nut of two valves.

CHAP. LXV.

CAPSICUM, GUINEA PEPPER.

WE are now come to treat of a ſpecies that admits of many varieties, and very different from moſt other Annuals; which derive value not from the flowers, but from the fruit, and are of different colours, ſize, ſhape, figure, and poſition; and afford a ſingularity among Annuals, and wonderful variety among themſelves. For there are of this ſpecies,

Species.

1. The Common *Capſicum*, with ſcarlet pendulous fruit.
2. The Yellow Pendulous-fruited *Capſicum.*
3. The Erect Scarlet-fruited *Capſicum.*
4. The Bifid-fruited *Capſicum.*
5. The Large Angular-fruited *Capſicum.*
6. The Cherry *Capſicum.*
7. The Olive *Capſicum.*
8. The Heart-ſhaped *Capſicum.*
9. The Upright Heart-ſhaped *Capſicum.*
10. The Angular Heart-ſhaped *Capſicum.*

Theſe are all varieties of the ſame ſpecies, though the Cherry, the Olive, and the Heart-ſhaped *Capſicums* are pretty permanent, and ſeeds ſown from theſe generally produce the like kind of plants. As to the Long-podded *Capſicum*, the varieties are ſtill more than what are mentioned, and new ones are conſtantly raiſed by ſowing the ſeeds, differing in the ſize and figure of the fruit.

The plant deſcribed.

The *Capſicum* will grow to about two feet in height. The ſtalk is erect, and divides irregularly into various branches. The leaves are long, broad, and undivided. The flowers are produced from many parts of the plant; they are ſmall, and of a whitiſh colour, with a kind of greeniſh knob in the center. Their time of blow is earlier or later, according to the ſkill of the Gardener in bringing the plants forward; and they are ſucceeded by beautiful fruit, all of which are of a gloſſy ſubſtance; their colour is an elegant ſcarlet, or yellow, though there are others of different tinges. The long-podded ones look like poliſhed coral; they are an excellent pickle, and ſerve at once both for beauty and uſe.

Propagation of it.

Capſicums are very eaſily raiſed from ſeeds, but it requires nice attendance and management to bring them to perfection. It is naturally an irregular-growing plant; and if it meets with bad management, or is checked in its progreſs, it will then be deformed, and excite but little pleaſure to behold it.

The French far exceed us in the management of theſe plants, and the Dutch lay claim to the ſame ſuperior ſkill: Be this as it will, we muſt complain, and have too great reaſon to lament, that a ſhew of good *Capſicums* is not very common with us. In order therefore to remedy this evil, let ſeeds be ſaved from the largeſt, the moſt healthy, and moſt regular plants, ſuch as have produced the fineſt fruit, and of the deepeſt colour. Let theſe be preſerved until the firſt week in March, againſt which time let a good hotbed be in readineſs; cover it over with good, light, rich mould, ſow the ſeeds regularly thereon, and ſift over them about half an inch of the ſame good earth. When the plants appear, take care they are not drawn up too weak; a little water muſt be given them, for the injudicious neglect of this is one great cauſe of their deformity. Gardeners too often water them (without judgment) as they do other Annuals, on a hotbed, with their watering-pot; they pour it out in ſuch plenty, eſpecially on the removal of the young plants to the ſecond hotbed, that it bears down the tender ſtalks, and preſſes them into unnatural directions, ſo that the plants hardly ever get the better of it. In the firſt hotbed, therefore, gently ſprinkle them with a hay wiſp only, giving them air as the weather will permit; and againſt the time that the heat of the hotbed will be much abated, a ſecond hotbed ſhould be in readineſs. Cover it over with the ſame kind of light earth eight inches deep, and carefully take the plants out of the hotbed with a hollow trowel, to preſerve a ball of mould to each root, and plant them in the ſecond hotbed in lines about five inches aſunder. At this time watering muſt be given them, and the greateſt caution muſt be taken not to overdo it, for now is the greateſt danger of overbearing the ſtalks by too large a quantity of that element. Let no watering-pot, therefore, be ſuffered to come near the bed, and a ſprinkling only from the hay wiſp be afforded to the tender race; thus they will receive comfort and nouriſhment, and the water will become the miſt or refreſhing dew to the tender plant. As the plants increaſe in ſize, more water muſt be given them, and the repetition oftener uſed; the glaſſes muſt be raiſed, and all poſſible air given them in mild weather; and by ſuch time as the heat of the bed is abated, a third hotbed muſt be got ready. Let the plants therefore be taken up, with a large ball of earth to each root, and ſet in pots. Let theſe pots be placed on a third hotbed; fill the vacancies up to the rims of the pots, and water them well, for by this time there will not be ſo much danger of hurting by overwatering, ſo that the watering-pots ſhould be now uſed. Shade them in hot weather, raiſe the glaſſes, and harden them by degrees to the open air; conſtantly repeat your watering, for they require it, and when the heat of the bed is entirely out, they may be ſet abroad; though if the trouble ſhould not be thought too great, they will be in greater perfection by the advantage of a fourth hotbed, which muſt be prepared, and the pots ſet on it as on the third.

For the reception of theſe plants let a good rich border be provided, turn them out of the pots with the mould to the roots, and plant them at about a foot and a half aſunder; thus they will never droop for removing; and the plants, having regularly had ſuch ſupplies and aſſiſtance as their nature requires, will have ſhewed their flowers early in June, and will exhibit fruit in its beſt perfection early in autumn.

The beſt ſort for pickling is the Large Angular-podded *Capſicum*, the ſkin of which being of a thicker conſiſtence, tender, and fleſhy, is more adapted for the purpoſe. The ſeeds therefore ſhould be gathered from ſuch plants as have the largeſt pods, and are forwardeſt in growth. This is a permanent variety; and when they are wanted for theſe purpoſes, a larger quantity of this ſort ſhould be raiſed; for they are not only a fine garniſh, but are by many eſteemed the beſt pickle in the world.

The inhabitants of America make uſe of *Capſicums* in their ſauce, where it goes by the name of Cayenne Pepper, Bell Pepper, Hen Pepper, and Cyan Butter.

Titles. Annuum. This plant is titled, *Capſicum caule herbaceo, pedunculis ſolitariis.* In the earlier works of Linnæus it is titled, *Capſicum annuum.* Tournefort calls it, *Capſicum ſiliquis longis propendentibus*; and Caſpar Bauhine, *Piper Indicum vulgatiſſimum.* It is a native of the warmeſt parts of America.

Claſs and order in the Linnæan ſyſtem. The characters. *Capſicum* is of the claſs and order *Pentandria Monogynia*; and the characters are,

1. CALYX is a monophyllous perianthium, cut into five erect, permanent ſegments.

2. COROLLA is a wheel-ſhaped petal. The tube is very ſhort; the limb is patent, and divided into five acute ſegments.

3. STAMINA conſiſt of five ſmall ſubulated filaments, with oblong, connivent antheræ.

4. PISTILLUM conſiſts of an oval germen, a ſlender ſtyle longer than the ſtamina, and an obtuſe ſtigma.

5. PERICARPIUM is a berry without any pulp; it is coloured, hollow, formed into two cells, and of uncertain figure.

6. SEMINA. The ſeeds are numerous, kidney-ſhaped, and compreſſed.

C H A P. LXVI.

CARDAMINE, LADIES SMOCK.

THERE are many Annuals of this genus that are ſeldom cultivated in gardens; nevertheleſs, thoſe who are fond of large collections of plants may, if they pleaſe, have a few of each ſort of the following ſpecies.

Species.
1. Impatient Lady-Smock.
2. Sicilian Lady-Smock.
3. Small-flowered Lady-Smock.
4. Hairy Lady-Smock.

Impatient. 1. The Impatient Lady-Smock grows to about a foot high. The leaves are pinnated, and the folioles jagged or divided on each ſide into three or four ſegments. The flowers have frequently no petals; but when they have, they are very ſmall, of a white colour, and are ſucceeded by long, elaſtic pods, which on being touched diſcharge the ſeeds with great violence, to the ſurpriſe of the gatherer, and equal merriment of the Gardener.

This plant, on account of the above property in diſcharging the ſeeds, is frequently called *Noli me tangere.*

Sicilian, 2. Sicilian Lady-Smock. This is a low plant of little beauty. The leaves are pinnated. The folioles are equal, palmated, and grow on foot-ſtalks along the mid-rib. The flowers conſiſt of four ſmall petals placed croſs-wiſe, and they are ſucceeded by long narrow pods, containing the ſeeds.

Small-flowered, 3. Small-flowered Lady-Smock. The ſtalks riſe to about eight inches high. The leaves are pinnated. The folioles are ſpear-ſhaped, obtuſe, and very ſlightly indented. The flowers are exceeding ſmall, and are ſucceeded by ſhort pods, ſtanding erect on horizontal pedicles.

and Hairy Lady-Smock deſcribed. 4. Hairy Lady-Smock. This is often found a weed in the garden and field. It is of low growth; the leaves are pinnated, and both leaves and ſtalks are very hairy. The flowers have four petals placed croſsways, and are ſucceeded by longiſh, twiſted pods, containing the ſeeds.

Culture. Theſe ſorts are propagated by ſowing the ſeeds in any part of the garden, though they do beſt in the ſhade, ſoon after they are ripe, or in the ſpring of the year; they will readily come up, and require no trouble, except thinning them where they are too cloſe, and keeping them clean from weeds.

After having once gained footing in a garden, they will keep up the ſucceſſion themſelves, if you chuſe to let them ſeed; for theſe ſcattering, will infallibly produce more plants than you would deſire. If they are permitted to multiply themſelves this way, nothing more is to be done than hoeing them down as you would weeds, leaving only any deſired number of plants in what part of the ground you pleaſe. They are all good ſallad herbs, and are by ſome people propagated on this account, who prefer them before Creſs, to which they are nearly allied in flavour.

Titles. Impa-tiens. 1. Impatient Lady-Smock is titled, *Cardamine foliis pinnatis inciſis ſtipulatis, floribus apetalis.* In the *Hortus Cliffort.* it is termed, *Cardamine foliis pinnatis: pinnis laciniatis.* Hudſon calls it, *Cardamine foliis pinnatis: foliolis laciniatis, petalis fugaciſſimis*; and John Bauhine, *Siſymbrii cardamines ſpecies quædam inſipida.* It grows naturally in moiſt ſhady places in England, and moſt countries of Europe.

Græca. 2. Sicilian Lady-Smock is, *Cardamine foliis pinnatis: foliolis palmatis æqualibus petiolatis.* Boccone calls it, *Naſturtium montanum nanum, rotundo thalictri folio, Cyrenæum*; and Tournefort, *Cardamine Sicula, foliis fumariæ* 1. It grows naturally in Sicily, Corſica, the Greek Iſlands, and Germany.

Parvi-flora. 3. Small-flowered Lady-Smock is, *Cardamine foliis*

foliis pinnatis extipulatis lanceolatis obtuſis, floribus corollatis. Caſpar Bauhine calls it, *Naſturtium pratenſe, flore parvo*; and Moriſon, *Naſturtium pratenſe, floſculis minimis.* It grows naturally in fields, meadows, and paſtures in England, and moſt countries of Europe.

Hirsu= =ta. 4. Hairy Lady-Smock is titled, *Cardamine foliis pinnatis, floribus tetrandris.* Caſpar Bauhine calls it, *Naſturtium aquaticum minus*; Cammerarius, *Siſymbrium aquaticum alterum*; and Ray, *Cardamine impatiens altera hirſutior.* It grows naturally in fields, gardens, paſtures, and ſhady places in England, and moſt parts of Europe.

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C H A P. LXVII.

CARDIOSPERMUM, HEART-SEED, or HEART-PEA.

THERE are two ſpecies of this genus, called,

Species.
1. Indian Heart-ſeed.
2. Braſilian Heart-ſeed.

Indian Heart-ſeed deſcribed. 1. Indian Heart-ſeed. The ſtalks are ſlender, channelled, climbing, and by the aſſiſtance of their tendrils, which come out under the diviſions of the footſtalks of the flowers, will arrive at the height of four or five feet. The leaves ſometimes conſiſt of three and ſometimes of five lobes, which are ſmooth, oblong, deeply cut on the edges, and ſharp-pointed. The leaves have long footſtalks, and the ſtalks which ſupport the flowers are long, but they divide into three ſhorter, each ſupporting a ſingle flower. Their colour is white; each of them has four petals, which are alternately larger; they come out earlier or later in the ſummer, according as the plants have been brought forward in the ſpring; and they are ſucceeded by a large, inflated capſule, containing the ſeeds, which is marked with the ſhape of a heart at the baſe.

Varieties. There are two or three varieties of this ſpecies, but their difference conſiſts chiefly in the ſize of the ſtalks, leaves, and fruit, ſome of them being larger than the others.

Braſilian Heart-ſeed deſcribed. 2. Braſilian Heart-ſeed. The ſtalks are hairy, and by help of the tendrils will grow to be ſeven or eight feet high. The leaves are divided into five parts, which are uſually divided again into three others; they are obtuſe, indented, downy underneath, and grow on ſhort footſtalks. The flowers are produced in the ſame manner as the former, but often more of them grow together on a footſtalk; each conſiſts of four petals, which, when fallen, are ſucceeded by inflated, downy capſules, containing the ſeeds, which are ſtamped with the figure of a heart at the baſe.

Culture. In order to bring theſe Annuals to flower early, and perfect their ſeeds, a moderate hotbed ſhould be in readineſs by the firſt week in March, which ſhould be covered over with five inches depth of any common garden-mould. The ſeeds muſt be then ſown in ſmall pots filled with light, ſandy, freſh earth, and the pots then plunged up to the rims in the mould of the hotbed. The glaſſes muſt be then let down, and all the laws relating to the good management of a hotbed muſt be obſerved until the plants come up. When they make their appearance, the greateſt nicety muſt be obſerved in giving them air; for if they have it too freely, it will kill them; and if they are kept too cloſe, they will grow weak, become yellow, unhealthy, and perhaps die, or be hardly ever made to ſhew themſelves in any degree of beauty. The method therefore to be obſerved with reſpect to this is, the plants muſt be ſhaded with mats in the heat of the day, and now and then a ſprinkling of water muſt be afforded them, which ſhould be given them in mornings.

When the heat of this bed is abated, they muſt be removed to another bed prepared in the like manner; then the plants ſhould be ſhifted into pots of a ſize larger, filled with the like kind of freſh, light earth. In doing of this, preſerve a ball of earth to the roots, that they may not be diſturbed, which would otherwiſe cauſe a great check in their growth.

When they are thus removed into theſe larger-ſized pots, they ſhould be plunged up to the rims in the mould of this ſecond hotbed. In this ſituation more air muſt be given the plants, the waterings muſt be more frequent, a greater quantity at a time, and the glaſſes muſt be ſhaded always in the hot ſun. Sticks muſt be thruſt by the ſides of the plants for their ſupport; and as they advance in height, the frames muſt be raiſed, or the multiplying-frame uſed. If the pots in which they now grow are moderately large, the plants need not be ſhifted into others; but if they are rather ſmall in proportion to the plant, they ſhould have larger, in order to give free room for their roots to grow. At the third ſhifting, it will be highly proper to plunge the pots up to the rims in the mould of a third hotbed, prepared for the purpoſe; and here they may ſtand, having a frame of ſufficient depth, until they flower, which will be in July, and their ſeeds will ripen in September.

Titles. 1. Indian Heart-ſeed is titled, *Cardioſpermum foliis lævibus.* Caſpar Bauhine calls it, *Piſum veſicarium, fructu nigro: albâ maculâ notato*; Rhumphius, *Halicacabum*; Dodonæus, *Halicacabus peregrinus*; and Tournefort, *Corindum ampliore folio, fructu maximo*; alſo, *Corindum fructu & folio minore.* It grows naturally in both the Indies. Halica= =cabum.

2. Braſilian Heart-ſeed is, *Cardioſpermum foliis ſubtus tomentoſis.* Hounſton calls it, *Corindum caule & foliis pubeſcentibus*; Miller, *Cardioſpermum vil-*

loſum foliis inciſis obtuſis, petiolis brevibus. It is a native of the Braſils.

Claſs and order in the Linnæan ſyſtem.

Cardioſpermum is of the claſs and order *Octandria Trigynia*; and the characters are,

The characters.

1. CALYX is a permanent perianthium, compoſed of four obtuſe concave leaves, which are alternately larger.

2. COROLLA conſiſts of four obtuſe petals, growing alternately with the larger leaves of the calyx. The nectarium is compoſed of four coloured leaves, and ſurrounds the germen.

3. STAMINA are eight awl-ſhaped filaments equal with the nectarium, having ſmall antheræ.

4. PISTILLUM conſiſts of a triquetrous germen, and three ſhort ſtyles with ſimple ſtigmas.

5. PERICARPIUM is a roundiſh, trilobate, inflated, trilocular capſule, opening at the top.

6. SEMINA. The ſeeds are ſingle, globoſe, and marked with a heart at the baſe.

C H A P. LXVIII.

CARDUUS, THISTLE.

MANY ſorts of Thiſtles, were it not for their commonneſs, and the trouble they cauſe in eradicating them from our fields and gardens, would be looked upon as very beautiful plants, and cultivated with all imaginary care in our beſt collections. All of them, however, are not common; neither are all of them rejected in our gardens, but many of them are careſſed by numbers, as plants of great ſingularity and beauty.

The principal Annuals and Biennials of this ſpecies are,

Species.

1. The Ladies Thiſtle.
2. The Welted Thiſtle.
3. Thiſtle-upon-Thiſtle.
4. Starry Thiſtle.
5. Syrian Thiſtle.
6. Spear Thiſtle.
7. Muſk Thiſtle.
8. Fiſh Thiſtle of Theophraſtus.
9. Woolly-headed Thiſtle.
10. Yellow Spaniſh Thiſtle.

Deſcription of Ladies

1. The Ladies Thiſtle. This plant hath very large leaves, finely ſinuated, prickly, and beautifully variegated with milk-like veins, running irregularly over the whole ſurface. The ſtalk is round, ſtriated, branching, and grows to be ſix feet high. The flowers terminate the branches in plenty; their colour is purple, and they grow in ſcaly, prickly cups. The greateſt beauty of this plant conſiſts in the radical leaves, before the ſtalks ſhoot up for flowering; on which account, though it is generally reckoned an Annual, the ſeeds ſhould be ſown in May; the plant will then come up, and be ſtrong by the autumn; thus they will figure by their large, ſpreading, beautiful leaves all winter, and flower and perfect their ſeeds the ſummer following.

and Welted Thiſtle.

2. Welted Thiſtle. There are two or three varieties of this ſpecies, growing common by the ſides of roads and ditches in moſt parts of England, which are always eradicated gardens as troubleſome weeds; but they are nevertheleſs fine plants. The leaves are beautifully ſinuated, decurrent, and very prickly. The flowers grow ſingly on long footſtalks; they ſtand erect; the heads are of different ſizes in the different ſorts, and the calyces are very hairy.

Thiſtle-upon-Thiſtle deſcribed.

3. Thiſtle upon-Thiſtle. This plant is uſually called the *Polyanthos* Thiſtle. The ſtalks are poſſeſſed of thin ſkins; they are branching, and very prickly. The leaves are ſinuated, and exceedingly full of prickles. The flowers are of a purple colour, and grow in very prickly, ſcaly cups.

Variety.

There is a variety of this ſpecies with white flowers; and it is one of the moſt prickly kind of Thiſtles we have.

Starry,

4. Starry Thiſtle. This is a low plant, having branching, lateral prickles. The leaves are moderately long, entire, and downy underneath. The flowers are of a reddiſh purple colour, and terminate the ſtalk in roundiſh heads.

Syrian,

5. Syrian Thiſtle. The ſtalks are robuſt, and branching. The leaves are large, angular, ſpotted with white, have each angle terminated by a ſtrong ſpine, and embrace the ſtalks with their baſe. The flowers grow ſingly on very ſhort footſtalks; but they are ſmall, and concealed among the leaves.

and Spear Thiſtle deſcribed.

6. Spear Thiſtle. This is a very common Thiſtle, growing almoſt every-where about towns and villages. The ſtalk is upright, branching, hairy, and cloſely ſet with the ſharpeſt prickles. The leaves are very long, have ſpear-ſhaped points, are decurrent, almoſt pinnated, and the ſegments are very ſharp and ſpreading. The flowers are purple, and terminate the branches in very prickly, ſcaly heads.

Varieties.

There are three or four varieties of this ſpecies differing in their ſize, prickles, or flowers.

Muſk

7. Muſk Thiſtle. As the former ſpecies is of no value on account of its commonneſs, this ought to be eſteemed for the ſcent of its flowers, which are poſſeſſed of a very ſweet, muſky fragrance. The ſtalks are upright, robuſt, and divide at the top into a few branches. The leaves are large, almoſt decurrent, and very prickly. The flowers are large, purple, hang drooping, and are poſſeſſed of the aforeſaid agreeable flavour.

and Fiſh Thiſtle deſcribed.

8. Fiſh Thiſtle of Theophraſtus. This is a tall, upright plant, growing to be about ſix feet

high. The leaves are large, ſpear-ſhaped, ſeſſile, downy underneath, and have ſpines growing by threes on the margin. The flowers terminate the ſtalks in cluſters, are of a purple colour, and are ſucceeded by ſmooth, oval, black ſeeds.

Variety. There is a variety of this ſpecies with yellow flowers.

Deſcription of Woolly-headed 9. Woolly-headed Thiſtle. The ſtalk is very thick, long, upright, and branching. The leaves are pinnatifid, prickly, ſeſſile, ſpread different ways, are downy underneath, and the ſegments are alternately erect. The flowers are collected into round heads, which are covered with a ſoft down; they are of a purple colour, and are ſucceeded by long, bright ſeeds.

and Yellow Spaniſh Thiſtle. 10. Yellow Spaniſh Thiſtle. The ſtalks are ſmooth. The leaves are ſpear-ſhaped, ſmooth, whole, indented on the edges, and entirely free from prickles. The flowers are of a whitiſh-yellow colour, terminating the ends of the ſtalks in cylindrical, oval cups.

Culture of the firſt five ſpecies. The firſt five ſpecies are reputed Annuals; and to have them flower ſtrong, the ſeeds ſhould be ſown in the autumn, ſoon after they are ripe, in the places where they are to remain.

Culture of the other ſpecies. The others being Biennials, the ſeeds ſhould be ſown in the ſpring, in the places where they are to remain; for many of them have large, ſtrong, tough roots, which will not bear tranſplanting well.

When they come up, they ſhould be thinned according to their ſizes, and the large ſpecies ſhould not be nearer than a yard or four feet from each other. All ſummer the ground ſhould be kept clean from weeds, and in the winter the mould between the plants ſhould be dug. Thus they will flower ſtrong the ſummer following. Their appearance is chiefly in June, and the ſeeds ripen in Auguſt.

Titles. 1. The Ladies Thiſtle is titled, *Carduus foliis amplexicaulibus haſtato-pinnatifidis ſpinoſis, calycibus aphyllis, ſpinis canaliculatis duplicato-ſpinoſis.* In the *Hortus Cliffort.* it is termed, *Carduus ſquamis calycinis margine apiceque ſpinoſis.* Caſpar Bauhine calls it, *Carduus albis maculis notatus vulgaris*; and Dalechamp, *Carduus Mariæ.* It grows naturally by the ſides of roads and ditches in England, Gaul, and Italy. Marianus.

Acanthoides. 2. Welted Thiſtle is titled, *Carduus foliis decurrentibus ſinuatis margine ſpinoſis, calycibus pedunculatis ſolitariis erectis villoſis.* Haller calls it, *Carduus foliis laciniatis, ſubtùs tomentoſis ex margine ſpinoſis, capitulis ſeſſilibus congeſtis, aculeatis*; John Bauhine, *Carduus acanthoides*; Ray, *Carduus ſpinoſiſſimus, capitulis minoribus*; and Moriſon, *Carduus polyanthos, capitulis longioribus & tenuioribus, foliis albicantibus.* It grows naturally by way-ſides in England and moſt parts of Europe.

Crispus. 3. Thiſtle-upon-Thiſtle. This ſpecies is titled, *Carduus foliis decurrentibus ſinuatis margine ſpinoſis, floribus aggregatis terminalibus inermibus.* Caſpar Bauhine calls it, *Carduus ſpinoſiſſimus anguſtifolius vulgaris*; John Bauhine, *Carduus caule criſpo*; and Parkinſon, *Carduus polyanthos.* It grows common by way-ſides in England and moſt northern countries of Europe.

4. Starry Thiſtle is titled, *Carduus foliis integris, ſpinis ramoſis lateralibus.* Triumfetti calls it, *Carduus humilis aculeatus, ptarmicæ Auſtriacæ foliis*; and Dodart, *Carduus ſtellatus leucoij lutei foliis.* It is not certain in what part of the world this Thiſtle grows naturally. Stellatus.

5. Syrian Thiſtle is titled, *Carduus foliis amplexicaulibus* angulato= *~~haſtato-pinnatifidis~~ ſpinoſis,* floribus *~~calycibus aphyllis, ſpinis canaliculatis duplicato-ſpinoſis~~* solitariis subsessilibus obvallatis foliolis subquinis. Caſpar Bauhine calls it, *Carduus albis maculis notatus exoticus*; alſo, *Carduus latifolius echinos obſoletæ purpureæ ferens.* Cammerarius terms it, *Carduus luteus Syriacus.* It grows naturally in Syria, Crete, and Spain. Syriacus.

6. Spear Thiſtle. This ſpecies is titled, *Carduus foliis decurrentibus pinnatifidis hiſpidis, laciniis divaricatis, calycibus ovatis ſpinoſis villoſis, caule piloſo.* In the *Hortus Cliffort.* it is termed, *Carduus foliis lanceolatis decurrentibus, denticulis ſuperficieque ſpinoſis.* Caſpar Bauhine calls it, *Carduus lanceolatus latifolius*; and John Bauhine, *Carduus lanceolatus, ſ. ſylveſtris Dodonæi.* It grows by way-ſides almoſt every-where. Lanceolatus.

7. Muſk Thiſtle is titled, *Carduus foliis ſemidecurrentibus ſpinoſis, floribus cernuis, ſquamis calycinis ſupernè patentibus.* In the *Hortus Cliffort.* it is termed, *Carduus foliis ſinuatis decurrentibus margine ſpinoſis, floribus ſolitariis nutantibus.* Caſpar Bauhine calls it, *Carduus ſpinoſiſſimus latifolius ſphærocephalus vulgaris*; and John Bauhine, *Carduus nutans.* It grows about towns and villages in England and moſt parts of Europe. Nutans.

8. Fiſh Thiſtle of Theophraſtus is titled, *Carduus foliis ſeſſilibus lanceolatis integerrimis ſubtùs tomentoſis, margine ſpinis ternatis.* Caſpar Bauhine calls it, *Acarna major, caule non folioſo*; John Bauhine, *Polyacanthus Caſabonæ, acarnæ ſimilis*; and Lobel, *Acarna Theophraſti anguillariæ.* It grows naturally in the South of Europe. Casabonæ.

9. Woolly-headed Thiſtle is titled, *Carduus foliis ſeſſilibus bifariam pinnatifidis, laciniis alternis erectis, calycibus globoſis villoſis.* In the *Hortus Upſal.* it is termed, *Carduus foliis ſemidecurrentibus duplicato-pinnatifidis, laciniis alternis erectis, calycibus ovatis.* Van Royen calls it, *Carduus foliis ſinuatis decurrentibus, denticulis ſuperficieque ſpinoſis, calycibus lanigeris.* Caſpar Bauhine calls it, *Carduus capite rotundo tomentoſo*; Lobel, *Carduus tomentoſus coronâ fratrum herbariorum*; and Tournefort, *Carduus tomentoſus Pyrenaicus, floribus purpureis glomeratis.* It grows naturally in England, Gaul, Portugal, and Spain. Eriophorus.

10. Yellow Spaniſh Thiſtle is titled, *Carduus foliis lanceolatis integris inermibus dentatis glabris, floribus aphyllis inermi-ſpinoſis.* It grows naturally in Spain. Flavescens.

C H A P. LXIX.

CARLINA, CARLINE THISTLE.

THE ſpecies that preſent themſelves here for obſervation are,

Species.

1. Wild Carline Thiſtle.
2. Woolly Carline Thiſtle.
3. Spaniſh Carline Thiſtle.

Deſcription of Wild,

1. Wild Carline Thiſtle is deemed a weed in many parts of England, but is nevertheleſs a plant of great ſingularity and beauty. The root ſtrikes deep into the ground, is moderately large, and hot to the taſte. The leaves are large, long, beautifully beſet with prickles, and finely divided at the edges. The flowers terminate the branches in prickly heads, and are encircled with leaves of a whitiſh-yellow colour; they come out in June and July, and the ſeeds ripen in Auguſt and September.

Woolly,

2. Woolly Carline Thiſtle. The ſtalk is very woolly, forked, and grows to about a foot and a half high. The flowers are produced from the diviſions of the branches, are moderately large, and of a fine purple colour; they come out in July or Auguſt, and the ſeeds ripen in the autumn.

and Spaniſh Carline Thiſtle.

3. Spaniſh Carline Thiſtle hath a very branching ſtalk, which riſes but to about a foot high. The flowers are produced from the ſides of the branches, where they ſit cloſe, without any footſtalks; they are of a yellow colour, come out in Auguſt, and the ſeeds ripen in the autumn.

Culture of the firſt ſpecies.

The firſt ſpecies is a Biennial, and grows naturally in barren and uncultivated ſoils in ſome parts of England. Whoever is deſirous of propagating it in gardens, ſhould procure ſome ſeeds, and ſow them in a bed of light, ſandy mould, in the ſpring. Where they come up too cloſe, draw out the weakeſt. Keep them clean from weeds all ſummer, and the ſummer following they will flower and perfect their ſeeds; ſoon after which the roots die.

Culture of the other two ſpecies.

The other two ſpecies, being Annuals, ſhould be ſown pretty early in the ſpring, in the places where they are to remain; for none of theſe plants bear tranſplanting well, they being all poſſeſſed of a tap-root, with which ſuch kind of uſage ſeldom agrees. After they come up, nothing more is to be done than to thin them where they appear too cloſe, and keep them clean from weeds. Thus they will flower about the latter end of the ſummer, and perfect their ſeeds in the autumn.

Titles.

1. The Wild or Common Engliſh Carline Thiſtle is titled, *Carlina caule multifloro, floribus terminalibus, calycibus radio albis.* Cluſius calls it, *Carlina ſylveſtris vulgaris*; Caſpar Bauhine, *Cnicus ſylveſtris ſpinoſior*; and Fuchſius, *Atractylis mitior.* It grows naturally in England and moſt parts of Europe.

Vulga-ris.

2 Woolly Carline Thiſtle is titled, *Carlina caule ſubmultifloro lanato, calycibus radio purpureis.* Sauvages calls it, *Carlina caule trifloro dichotomo, intermedio ſeſſili.* Barrelier calls it, *Acarna atractylidis folio, amplo flore*; Caſpar Bauhine, *Acarna flore purpureo rubente patulo*; and Columna, *Acanthoides parva Apula.* It is a native of Italy and France.

Lana-ta.

3. Spaniſh Carline Thiſtle is titled, *Carlina floribus ſeſſilibus lateralibus pauciſſimis.* Cluſius calls it, *Carlina ſylveſtris minor Hiſpanica*; and Caſpar Bauhine, *Acarna flore luteo patulo.* It grows naturally in the Spaniſh deſarts.

Race-mosa.

* * *

C H A P. LXX.

CARUM, CARVY, or CARAWAY.

THERE is only one real ſpecies of this genus yet known, called Caraways.

The plant deſcribed.

The root is not much unlike Parſley, but larger, chiefly white, ſtrikes deep into the ground, and has the taſte almoſt of a Carrot. From this riſe one or two ſmooth, channelled, branching ſtalks, to the height of about a foot and a half, or two feet. The leaves are large, compoſed of many parts, like thoſe of the Carrot, and grow on long, naked footſtalks. Each of the branches is terminated by a large umbel of flowers, which are of a white colour, make their appearance in June, and are ſucceeded by thoſe oblong, channelled, convex ſeeds called Caraway-ſeeds.

Method of raiſing it.

This plant is a Biennial; ſo that if the ſeeds are ſown in the ſpring, the plants will be ſtrong by the autumn, and flower early the ſummer following. Nevertheleſs, if you get your ground in readineſs, and ſow the ſeeds in the latter end of ſummer, as ſoon as they are ripe, they will come up in the autumn, will ſtand the winter well, and flower and perfect their ſeeds the ſucceeding ſummer. Thus, by obſerving this expedition of getting the ſeeds into the ground as ſoon as they are well ripe and dried, a whole year will be ſaved, and the crop will be of no inferior value.

When the plants come up, nothing more is to be done than to hoe them to about four inches diſtance from each other, as you do Carrots; and keep the ground clean from weeds, which muſt be effected by three or four different hoeings at proper intervals, as the growth of the weeds makes it neceſſary.

When the ſeeds are ripe, the plants muſt be pulled up, tied in bundles, and ſet up to dry; after which the ſeeds may be thraſhed out, and put up in bags to be ready for uſe.

Titles.
Carui.

There being no other ſpecies of this genus, it ſtands ſimply with the name, *Carum*. Gerard calls it, *Carum, ſeu carcum*; and Caſpar Bauhine, *Carum pratenſe, carvi officinarum*. It grows naturally in meadows and paſtures in ſome parts of England; alſo in Germany, Bohemia, and many of the northern countries of Europe.

Claſs and order in the Linnæan ſyſtem. The characters.

Carum is of the claſs and order *Pentandria Digynia*; and the characters are,

1. Calyx. The general umbel is long, and has ten radii that are often unequal. The partial umbels are cluſtered. For the general involucrum there is ſometimes one leaf; but for the partial none. The perianthium is hardly to be diſtinguiſhed.

2. Corolla. The general flower is uniforme. The ſingle flowers conſiſt each of five obtuſe, unequal, heart-ſhaped petals, that are inflexed at the points.

3. Stamina are five capillary filaments the length of the corolla, having ſmall, roundiſh antheræ.

4. Pistillum conſiſts of a germen ſituated below the flowers, and two ſmall ſtyles with ſimple ſtigmas.

5. Pericarpium. There is none. The fruit is oval, oblong, ſtriated, and ſeparable into two parts.

6. Semina. The ſeeds are two, oval, oblong, ſtriated, convex on one ſide, and plain on the other.

CHAP. LXXI.

CASSIA, WILD *SENNA*.

Species.

THE following ſpecies of this genus are cultivated in ſome curious collections, viz.

1. The Two-leaved Indian *Caſſia*.
2. Quadrifoliate Indian *Caſſia*.
3. Quadrangular-podded Indian *Caſſia*.
4. Stinking Obtuſe-leaved *Caſſia* of Cuba.
5. Ægyptian *Caſſia*, or Common Senna.
6. Smooth Occidental *Caſſia*.
7. Hairy Occidental *Caſſia*.
8. Proſtrate *Caſſia* of Jamaica.
9. Many-leaved *Caſſia* of Jamaica.
10. Many-leaved Braſilian *Caſſia*.
11. Many-leaved Virginian *Caſſia*.
12. Many-leaved Procumbent *Caſſia* of the Eaſt and Weſt Indies.

General obſervations.

Theſe plants are by many ſuppoſed to derive their greateſt excellence from their leaves, theſe being pinnated in a beautiful manner, and affording great matter for reflection on the wiſdom and goodneſs of the Almighty Creator, by ſtamping in them ſuch properties as may beſt contribute to the health and ſupport of the plants.

They are all of them ſleeping plants; and as plants of that property are known to contract their leaves in evenings after ſun-ſet, and expand them again in the morning, ſo theſe do the ſame; but with this difference, they always exhibit their under-ſide outwards, to be ready to receive what dews or rain may fall upon it in the night; whilſt the upper ſurface, which in moſt plants is ſmooth, to ſhoot off rain or moiſture as it falls, is in theſe concealed, or cloſely folded together; the reaſon for which is this: Plants with this property are natives of the deſerty, ſandy, and hot parts of the world, where little nouriſhment is afforded them from the ſoil in which they grow; and therefore, that they may receive all the benefit from the dews and rains, the Almighty has granted them this property of turning their under-ſide upwards, which, being poſſeſſed of a downy matter, is better qualified to retain ſuch dews and moiſture as may fall, which being inhaled by the leaves afford conſiderable nouriſhment to the plants.

Deſcription of the Two-leaved,

1. The Two-leaved Indian *Caſſia* has a ligneous, pithy, taper ſtalk. The leaves grow two together on ſhort footſtalks, are nearly round, ſtriated, and obtuſe; the ſtipulæ are cordated, ſpear-ſhaped, and very large.

Quadrifoliate,

2. The Quadrifoliate Indian *Caſſia* has two-pair of leaves growing together, which are ſmooth, and nearly of an oval figure. It is but a low plant, growing only to about a foot high; but the flowers are very beautiful, being of a fiery-red colour, and moderately large; they are ſucceeded by plane, ſhort pods, containing the ſeeds.

and Quadrangular-podded Indian Caſſia.

3. The Quadrangular-podded Indian *Caſſia* has ligneous, pithy, rough, branching ſtalks, that will grow to about two feet high. The leaves are compoſed of three pair of folioles, which are of an oval figure; the upper ones are the largeſt, and there is a ſharp-pointed glandule between the lower pair; the ſtipulæ are narrow, ſharp-pointed, and hairy.

Culture of this ſpecies.

This ſpecies is rather a Biennial; ſo that if the ſeeds are ſown in ſummer, and the plants can be preſerved in a ſtove all winter, it will flower early the ſummer following, and there will be a pretty good certainty of having good ſeeds. Where there is no ſuch conveniency, the ſeeds may be ſown in March, and by good management the plants may be made to flower in July or Auguſt, and ſometimes to ripen their ſeeds in the autumn.

Stinking Obtuſe-leaved Caſſia of Cuba deſcribed.

4. The Stinking Obtuſe-leaved *Caſſia* of Cuba has a ſmall, herbaceous ſtalk about a foot and a half high. The leaves are compoſed of three

pair of roundiſh, oval, obtuſe folioles. The upper parts of the ſtalks, with good management, will be adorned with the flowers in July; and both theſe and the whole plant are very ſtrongly and diſagreeably ſcented.

The Ægyptian Caſſia deſcribed.

5. The Ægyptian *Caſſia*, or Common *Senna*, has ligneous ſtalks that are long, ſlender, and tough. The leaves are pinnated; and each conſiſts of three, four, and ſometimes of ſix pair of whitiſh or pale-green folioles, that are nearly of an oval figure. The flowers are produced from the tops of the branches on ſlender footſtalks; they are of a yellow colour, having a few reddiſh or browniſh ſtripes, and are ſucceeded by crooked, compreſſed pods, containing the ſeeds.

Medicinal qualities of it.

This is the Common *Senna* of the ſhops, and is cultivated in the hot parts of the world, from whence it is diſperſed to the different parts of the globe for uſe. It is in great repute as a purge, and is ſaid to be good for the ſight, ſtrengthening the hearing, and exhilarating the ſpirits.

Deſcription of the Smooth

6. The Smooth Occidental *Caſſia* riſes with a channelled, branching ſtalk to the height of four or five feet. The leaves are pinnated, and grow alternately on glandulous footſtalks, each conſiſting of five pair of oval, ſpear-ſhaped folioles, that are rough on the edges; the upper ones are the largeſt, and they diminiſh in ſize gradually to the loweſt. The flowers are produced from the tops of the ſtalks in looſe ſpikes, are of a yellow colour, and are ſucceeded by ſword-ſhaped, bordered, flat pods, containing the ſeeds. The whole of this plant is very fœtid, and diſagreeable to the ſmell.

and Hairy Occidental Caſſia.

7. Hairy Occidental *Caſſia*. The ſtalk of this ſpecies is channelled, branching, and grows to about a yard high. The leaves are compoſed each of ſix pair of folioles; theſe are broad, oval, ſharp-pointed, woolly, and hairy. The flowers are produced from the upper parts of the ſtalks in looſe ſpikes, are of a yellowiſh colour, and both theſe and the leaves are ſtinking and diſagreeable to the ſcent.

Theſe laſt two ſpecies are Biennials; but where there is no conveniency of a ſtove to preſerve them in the winter, they may be made to flower and perfect their ſeeds in one year.

Deſcription of Proſtrate

8. Proſtrate *Caſſia* of Jamaica. The ſtalks are exceedingly ſlender, herbaceous, ſmooth, and, unleſs ſupported, lie on the ground. The leaves are compoſed each of ſeven pair of oblong, ſtriated folioles; the ſtipulæ are awl-ſhaped. The flowers grow ſingly from the wings of the leaves on long, naked footſtalks. The pods are of an oblong figure, and grow erect at right angles with the footſtalks.

and Many-leaved Caſſia of Jamaica.

9. Many-leaved *Caſſia* of Jamaica. This ſpecies is known alſo by the name of the Dwarf Peacock Flower, and in ſome places it goes by the name of the Golden *Caſſia*. The ſtalk is round, downy, tough, pithy, upright, and grows to about two feet high. The leaves are very long, pinnated in a beautiful manner, and grow on glandular footſtalks; they conſiſt of about twenty pair of folioles, which are ſmall, of an oblong figure, grow oppoſite to each other on the mid-rib, and are of a pleaſant-green colour; the ſtipulæ are ſword-ſhaped. The flowers are large, of a golden-yellow colour, and produced from the ſides of the branches oppoſite to the leaves, on the intervals between them, on ſhort footſtalks; they may be brought to blow in July, Auguſt, and September; and they are ſucceeded by the pods, containing the ſeeds, which are black, large, and very bright.

Many-leaved Braſilian,

10. Many-leaved Braſilian *Caſſia*. The ſtalks are upright, branching a little, and very tough. The leaves much reſemble thoſe of the Senſitive Plant, conſiſting of about the ſame number of pinnæ, finely arranged along the mid-rib. The flowers are yellow, and produced from the ſides of the branches to a conſiderable depth. They may be brought to blow in any of the later ſummer months, and are ſucceeded by ſingle pods, containing the ſeeds.

and Many-leaved Virginian Caſſia deſcribed.

11. Many-leaved Virginian *Caſſia*. The leaves of this ſpecies alſo reſemble thoſe of the Senſitive Plant; they conſiſt of about twenty pair of folioles finely arranged along the mid-rib, and on the general footſtalk is a glandule raiſed on a little pedicle. The flowers are produced from the upper parts of the branches for a conſiderable length. The footſtalks divide into three parts, and each part ſupports one flower; it is ſmall, nictant, and will continue in ſucceſſion for near two months.

Many-leaved Procumbent Caſſia of the Eaſt and Weſt Indies deſcribed.

12. Many-leaved Procumbent *Caſſia* of the Eaſt and Weſt Indies. The ſtalks are weak, herbaceous, and lie on the ground. The leaves conſiſt of about twenty pair of folioles, arranged along the mid-rib in the manner of thoſe of the Eaſt Senſitive Plant. The flowers are ſmall and of little beauty, and are ſucceeded by narrow, flat pods, containing the ſeeds.

Method of propagating them.

Theſe plants are beſt raiſed by ſowing the ſeeds in very ſmall pots, filled with light, ſandy, freſh earth, the beginning of March. By the time the ſeeds are ſown, a moderate hot-bed ſhould be provided in due degree of temperature, having on it a ſtratum of common mould five inches deep. In this mould the pots muſt be plunged up to the rims; and the uſual care neceſſary for tender plants muſt attend theſe, until they are in the mean three inches high. By this time the heat of the bed will be abated, and the plants will require another hot-bed. This muſt be got in readineſs, and the plants ſhifted into pots a ſize larger, which muſt be plunged up to the rims in the mould of the bed as before. If only a few plants of a ſort are deſired to be raiſed, draw out the weakeſt from each pot, leaving only the ſtrongeſt to grow; and then the mould may be turned into a larger pot with the root, and the plant will meet with no check from the removal. If many plants grow together in a pot, and they muſt be preſerved, the beſt way will be to turn the mould out of the pots; and, laying it on the ſide, by a gentle cruſh it will ſeparate from the roots, without bruiſing or breaking their fibres. The plants are then to be ſet each in a ſeparate pot, plunged up to the rims in the new bed, and ſhaded and watered until they have taken root; but it muſt be obſerved, that ſuch removed plants will not be near ſo ſtrong, nor flower ſo early, as thoſe ſingle plants that have been ſhifted from their firſt pots without looſening the mould from their fibres. In this ſecond bed they muſt remain until the heat abates, when it ſhould be renewed with a good lining of freſh dung; and before the heat of this is well over, they muſt have a third hot-bed. In every one of theſe ſteps they muſt be duly watered, conſtantly ſhaded with mats from the heat of the ſun, and have a due admiſſion of air granted them in all favourable ſeaſons.

By the end of July, or early in Auguſt, ſome of them will begin to flower; and many of them will continue in ſucceſſion until late in the autumn, by which time the pods from the firſt-blown flowers will have ripe ſeeds.

If there is the conveniency of a ſtove, the ſeeds may be ſown in July, and the pots plunged into a very gentle hot-bed. All ſummer they ſhould be brought ſlowly forward, and in autumn ſhould be carried into the ſtove. By ſpring they will be grown into good, ſtrong plants; the ſtalks will advance apace for flowering, the ſhow of bloom will be early in the ſummer, and plenty of good ſeeds will be in conſequence.

If the ſeeds are ſown in May, and the plants be brought ſlowly forward by temperate hot-beds all ſummer, and removed into the ſtove in the autumn, they will begin to exhibit their bloom about November, and in ſuch a ſituation many of the ſorts will continue to flower the greateſt part of the winter.

Titles. Diphylla. 1. The Two-leaved Indian *Caſſia* is titled, *Caſſia foliis conjugis, ſtipulis cordato-lanceolatis.* It grows naturally in India.

Absus. 2. Quadrifoliate Indian *Caſſia* is titled, *Caſſia foliis bijugis ſubovatis, glandulis duabus ſubulatis inter infima.* Burman calls it, *Senna quadrifolia ſiliqua plana hirſuta, flore aureo ſanguineo*; Plukenet, *Senna exigua maderaſpatana tetraphylla ſiliquiferâ glabra, florum pediculis ad exortum foliorum propendentibus*; Caſpar Bauhine, *Loto affinis Ægyptica*; and Alpinus, *Abſus.* It grows naturally in India and Ægypt.

Tora. 3. Quadrangular-podded Indian *Caſſia* is titled, *Caſſia foliis trijugis obovatis, exterioribus majoribus, glandulâ ſubulatâ inter inferiora quatuor.* Dillenius calls it, *Caſſia ſiliquâ quadrangulari*; Plumier, *Caſſia humilis, ſiliquis fœni Græci*; Herman, *Senna Orientalis hexaphylla, tala Zeylonienſium*; Plukenet, *Senna Orientalis hexaphylla, ſiliquis longis incurvis*; and Ray, *Galega Indica minor hexaphyllos amanni.* It is a native of India.

Obtusi-folia. 4. Stinking Obtuſe-leaved *Caſſia* of Cuba is, *Caſſia foliis trijugis ovatis obtuſiuſculis.* Dillenius calls it, *Caſſia fœtida, foliis ſennæ Italicæ*; Sloane, *Caſſia minor herbacea plerùmque hexaphylla, folio obtuſo*; and Rumphius, *Gallinaria rotundifolia.* It grows naturally in Cuba.

Senna. 5. Ægyptian *Caſſia* or *Senna* is titled, *Caſſia foliis trijugis quadrijugiſve-ſexjugis ſubovatis.* Caſpar Bauhine calls it, *Senna Alexandrina, ſ. foliis acutis*; alſo, *Senna Italica, ſ. foliis obtuſis.* Dodonæus names it, ſimply, *Senna.* It grows naturally in Ægypt.

Occiden-talis. 6. Smooth Occidental *Caſſia* is titled, *Caſſia foliis quinquejugis ovatis lanceolatis margine ſcabris, exterioribus majoribus, glandulâ baſeos petiolorum.* In the *Hortus Cliffort.* it is termed, *Caſſia foliolis quatuor parium ovato-lanceolatis, glandulâ baſeos petiolorum*; and Commelin, *Senna Occidentalis, odore opii viroſo, orobi Pannonici foliis mucronatis, glabra.* It is a native of Jamaica.

7. Hairy Occidental *Caſſia* is titled, *Caſſia foliis ſejugis ovatis acuminatis lanatis.* Tournefort calls it, *Caſſia Americana fœtida, foliis amplioribus villoſis*; and Herman, *Senna Occidentalis, odore opii viroſo, foliis orobi Pannonici mucronatis hirſutis.* It grows common in America. Hirsuta

8. Proſtrate *Caſſia* of Jamaica is, *Caſſia foliis ſeptemjugis, floribus pentandris, caulibus filiformibus proſtratis herbaceis.* Brown calls it, *Caſſia herbacea tenuiſſima procumbens, floribus ſingularibus ad alas.* It is a native of Jamaica. Serpens.

9. Many-leaved *Caſſia* of Jamaica is titled, *Caſſia foliis multijugis, glandulâ petioli pedicillatâ, ſtipulis enſiformibus.* In the *Hortus Cliffort.* it is termed, *Caſſia foliolis plurium parium linearibus, ſtipulis ſubulatis.* Brown calls it, *Caſſia ſuffruticoſa erecta, foliolis linearibus plurimis pinnatis, floribus ſingularibus vel geminis ſparſis*; and Commelin, *Chamæcriſta pavonis major.* It grows naturally in Jamaica, Barbadoes, and Virginia. Chamæ-crista.

10. Many-leaved Braſilian *Caſſia* is titled, *Caſſia foliis multijugis, ſtipulis dimidiato-cordatis.* Herman calls it, *Senna ſpuria Occidentalis, ſiliquâ ſingulari, foliis herbæ mimoſæ*; and Breynius, *Chamæcriſta pavonis Braſiliana, ſiliquâ ſingulari.* It grows common in the Braſils. Flexuosa.

11. Many-leaved Virginian *Caſſia* is titled, *Caſſia foliis multijugis, floribus pentandris, caule erecto.* In the *Hortus Cliffort.* it is termed, *Caſſia calycibus acutis, floribus pentandris.* Plukenet calls it, *Senna ſpuria Virginiana, mimoſæ foliis, floribus parvis nictantibus*; and Rumphius, *Amœna mœſta.* It grows naturally in Virginia. Nicti-tans.

12. Many-leaved Procumbent *Caſſia* of the Eaſt and Weſt Indies. This ſpecies is titled, *Caſſia foliis multijugis, caule procumbente.* Commelin calls it, *Caſſia Americana procumbens herbacea, mimoſæ foliis, floribus parvis, ſiliquis anguſtis planis*, and Petiver, *Chamæcriſta Mariana, flore minore.* It is a native of both the Indies. Procumbens.

CHAP. LXXII.

CATANANCHE, CANDY LION'S FOOT.

The plant deſcribed. ANNUAL Candy Lion's Foot, or Yellow Gum Cicory. The root of this ſpecies is moderately thick, fibrous, and poſſeſſed of a milky juice. The lower leaves are long, broad, nervous, hoary, and ſinuated on their edges. The ſtalk is round, branching, whitiſh, grows to a foot and a half or two feet high, and is garniſhed with a few ſinuated leaves like thoſe from the root, but ſmaller. The flowers are produced from the ends of the branches in July, are of a yellow colour, and only one grows on a footſtalk: They are ſucceeded by ripe ſeeds in September.

Culture. This ſpecies is propagated by ſowing of the ſeeds in March, in a bed of light, ſandy mould, made fine. The plants will readily come up; and after that nothing more is to be done than to draw out the weakeſt where they appear too cloſe, leaving the others at proper diſtances, and keeping them clean from weeds. They will flower in July, and ripen their ſeeds in the autumn; which ſcattering, and being wafted by the winds to a conſiderable diſtance, will ſometimes come up in different parts of the garden, and continue the ſucceſſion without further trouble.

Lutea. The Annual Candy Lion's Foot, or Yellow Gum Cicory, is titled, *Catananche ſquamis calycinis inferioribus lanceolatis.* Vaillant calls it, *Catananche lutea, longo nervoſo dentatoque folio*; Boccone, *Chondrilla cyanoides lutea, coronopi folio non diviſo*; and Alpinus, *Stoebe plantaginis folio.* It grows naturally in Crete.

C H A P. LXXIII.

CARTHAMUS, BASTARD SAFFRON.

Species. HERE we find,

1. The Baſtard Saffron of the Shops.
2. Woolly Baſtard Saffron, or Yellow Diſtaff Thiſtle.
3. Cretan Baſtard Saffron.

Baſtard Saffron of the Shops deſcribed. 1. Baſtard Saffron of the Shops riſes with an upright, ligneous, ſtiff, branching ſtalk, to the height of about a yard. The leaves are oval, undivided, ſerrated, prickly round the edges, and grow cloſe without footſtalks on the branches. The flowers are collected into large heads at the ends of the branches, having ſcaly cups. Each branch ſupports one flower only, which is of a reddiſh-yellow or ſaffron colour, and ſhews itſelf to advantage by the florets burſting near an inch out from the calyx. The time of flowering is July and Auguſt, and the ſeeds ripen in the autumn.

Deſcription of Woolly 2. Woolly Baſtard Saffron. This ſpecies is often called the Diſtaff Thiſtle; becauſe the good houſewives of Italy, France, and Spain, uſe the ſtalks of it for diſtaffs. The ſtalk grows to about two or three feet high, branches near the top, and is very hairy and woolly. The lower leaves are pinnatifid, prickly, woolly, and hairy; and the upper ones are indented, prickly on their edges, and embrace the ſtalk with their baſe. The flowers are yellow, and are produced from the ends of the branches in ſcaly cups, attended by many ſtiff, prickly leaves, cluſtered together underneath; they come out in July and Auguſt, and the ſeeds ripen in the autumn.

and Cretan Baſtard Saffron. 3. Cretan Baſtard Saffron riſes with an upright ſtalk, that branches near the top, and is almoſt ſmooth, to the height of two or three feet. The lower leaves are lyre-ſhaped; and the upper ones are indented, and embrace the ſtalk with their baſe. The flowers terminate the branches in woolly, ſcaly cups; they are of a white colour, come out in July or Auguſt, and their ſeeds ripen in the autumn.

Method of propagation. All theſe ſpecies are eaſily propagated by ſowing of the ſeeds in March, in a good, freſh ſoil. When the plants come up, nothing more need be done than to thin them to proper diſtances, keep them clean from weeds, and now and then give them ſome water, if the weather ſhould prove exceſſively dry. They will then flower in July or Auguſt, and ripen their ſeeds in the autumn.

In order to have theſe plants flower earlier in the ſummer, ſow the ſeeds in the autumn ſoon after they are ripe. Such plants will often be in flower before the end of June, and accordingly there will be greater certainty of obtaining from them good ſeeds for a ſucceſſion.

Culture of the firſt ſpecies, particularly. The firſt ſpecies is what is uſed in medicine, and might be cultivated to great advantage in many parts of England: But the ſeeds ſhould be procured from the warmer parts of Europe or America; for there is no certainty of their ripening in this country. In Germany they ripen extremely well, and the management of this plant is a conſiderable branch of their trade; ſo that we may very eaſily procure the ſeeds from them. Therefore, though the ſeeds do not always ripen with us, a correſpondence might be ſettled, by which means the ſeeds might be annually imported from ſuch parts as could ſupply us with a good ſpecies.

In order to raiſe large crops of this ſpecies for uſe, make choice of ſuch land as is light, of deep ſoil, and in good heart. The ſummer before, let it lie fallow, and let it have three ploughings, the ſame as is practiſed previous to the ſowing of wheat; and between each ploughing, let it be well harrowed with a heavy, long-tined harrow, to break the clods, &c. About the end of March let it be ploughed and harrowed again, and it will be in right order for the reception of the ſeeds. Theſe ſhould be ſown in drills, made with the hoe, or a ſhallow plough. Theſe drills or rows ſhould be a foot and a half, or, if the land is very rich, two feet diſtant from each other. The ſeeds ſhould be then ſown in the rows thinly, and, if the ſpace of ground be ſmall, covered up with the hoe, but if large, with a light harrow, having the teeth no longer than about an inch and a half. This being done, the ground ſhould be well rolled, to ſettle the whole, and make the ſurface ſmooth and level.

When the plants come up, ſwarms of weeds will probably ſhew themſelves at the ſame time. Theſe muſt be hoed down; and, the more effectually to deſtroy them, the buſineſs ſhould be done in dry weather. The plants in the rows, alſo, muſt be thinned, taking out the weakeſt, and leaving the others at about ſix inches diſtance from each other. In a month or five weeks, the hoeing down of the weeds muſt be repeated; and afterwards they muſt be hoed down a third time, if neceſſary; for the ground muſt be conſtantly kept clean from them.

About the middle of July, the plants will come into flower; and this is the time for gathering their florets, or thrum, as they call it, for uſe. A kiln is to be in readineſs, and the florets ſhould be gathered after the dew is evaporated,

porated, and dried in the ſame manner as Saffron; there will be a ſucceſſion of flowers for ſix or eight weeks, during which time the florets muſt be gathered at proper intervals, and carried to the kiln to be dried. When the whole crop is gathered, the ſtalks ſhould be pulled up, and tied in bundles for fuel, as it is admirable for lighting of fires, heating of ovens, &c.

If you have not a ſettled correſpondence for receiving the ſeeds regularly from abroad, a corner of this crop ſhould be left untouched to produce ſeeds; it ſhould be large enough to produce ſeeds for the purpoſes wanted, and at the time of thinning the plants ſhould be made to ſtand at a greater diſtance, allowing a ſpace of about a foot or more between the plants in the rows.

In favourable ſeaſons the ſeeds ripen very well, and afford enough for a ſucceſſion without further trouble; but as this does not always happen, it is become an objection to raiſing theſe plants for general uſe. Another thing alſo diſcourages many: the value of this article conſiſts chiefly in the goodneſs of the colour; it ought to be of a bright-ſaffron colour; and if much rain happens at the time of gathering, it becomes of a dirty-yellow colour, and of inferior value. But this objection may as well be made againſt raiſing Lucern, and indeed all ſorts of graſs and corn, which are ever injured by much rain falling at the time they are cut for uſe.

Theſe flowers give a fine colour to puddings, and may be uſed in ſoups, broths, &c. like Marigold, and for the ſame purpoſe; but it muſt be in reaſonable quantities, otherwiſe it will cauſe them to have a cathartic property. Wheat is ſaid to grow very well after a crop of this *Carthamus*; though, if the land is exceeding good, it will be the beſt way to ſow it the year following with a crop of Oats or Barley.

Titles. 1. The Baſtard Saffron of the Shops is titled, *Carthamus foliis ovatis integris ſerrato-aculeatis.* Caſpar Bauhine calls it, *Cnicus ſativus, ſive carthamus officinarum*; and Cluſius, *Cnicus vulgaris.* It is a native of Ægypt. Tinctorius.

2. Woolly Baſtard Saffron is, *Carthamus caule piloſo: ſupernè lanato, foliis inferioribus pinnatifidis: ſummis amplexicaulibus dentatis.* In the *Hortus Cliffort.* it is termed, *Carthamus foliis amplexicaulibus acuminato-dentatis.* Caſpar Bauhine calls it, *Atractylis lutea*; Columna, *Atractylis Theophraſti & Dioſcoridis ſucco ſanguineo*; and Dodonæus, *Atractylis.* It is a native of Gaul, Italy, and Crete. Lanatus.

3. Cretan Baſtard Saffron is, *Carthamus caule læviuſculo, calycibus ſublanatis, floſculis ſubnovenis, foliis inferioribus lyratis; ſummis ſemi-amplexicaulibus dentatis.* Vaillant calls it, *Atractylis flore leucophæo*; and Tournefort, *Cnicus Creticus, atractylidis folio & facie, flore leucophæo, ſ. candidiſſimo.* It grows naturally in Crete. Creticus.

CHAP. LXXIV.

CAUCALIS, BASTARD PARSLEY.

Species. OF this genus are,
1. Corn Baſtard Parſley.
2. Fine-leaved Baſtard Parſley.
3. Montpelier Baſtard Parſley.
4. Oriental Baſtard Parſley.

Corn, 1. Corn Baſtard Parſley. The root is long, ſlender, aromatick, eſculent, and ſtrikes deep into the ground. The leaves are ſomething like thoſe of Carrot, being compoſed of a multitude of narrow parts, and the radical ones have long footſtalks. The ſtalk is ſtriated, jointed, branching from the bottom, and a foot and a half or two feet high. The flowers are produced from the ends and ſides of the branches in umbels, growing on long naked footſtalks; they are large, of a white colour, appear in July and Auguſt, and the ſeeds ripen in September.

Fine-leaved Baſtard, 2. Fine-leaved Baſtard Parſley. The root is white, and ſtrikes deep into the ground. The ſtalk is round, jointed, ſtriated, branching, and a foot and a half high. The radical leaves are large, divided, and have long footſtalks; thoſe on the ſtalks are ſmaller, and grow ſingly at the joints. The flowers come out in umbels from the ends and ſides of the branches; they are ſmall, of a reddiſh colour, appear in July, and the ſeeds ripen in Auguſt and September.

3. Montpelier Baſtard Parſley. The root is white, and ſtrikes ſtraight into the ground. The ſtalk is round, ſtriated, ſmooth, branching, and two or three feet high. The ſegments which compoſe the leaves are ſomewhat broad, ſmooth on the upper-ſide, but a little hairy underneath, and have ſhort, ſlender footſtalks. The flowers are produced in umbels elevated on long naked footſtalks; they appear in July and Auguſt, and the ſeeds ripen in September.

and Oriental Corn Parſley deſcribed. 4. Oriental Corn Parſley. The ſtalk is upright, jointed, branching, and three or four feet high. The leaves are compoſed of a multitude of narrow parts, in the manner of *Ferula.* The flowers are produced in whorls from the tops of the branches; they are ſmall, appear in July, and the ſeeds ripen in September.

Method of propagation. Theſe plants are raiſed by ſowing the ſeeds in the ſummer, or the early part of the autumn; and the plants will come up, continue green all winter, and the ſummer following will flower, and perfect their ſeeds; which, if permitted to ſcatter, will afford more plants than you could wiſh for a ſucceſſion.

Titles. 1. The firſt ſpecies is titled, *Caucalis involucris pentaphyllis: foliolo unico duplo majore.* In the *Flora Suecia* it is termed, *Caucalis involucro univerſali pinnatifido, partialibus indiviſis, umbellâ multifidâ.* Caſpar Bauhine calls it, *Caucalis arvenſis echinata, magno flore*; Rivinus, *Echinophora flore magno*; and Columna, *Echinophora pycnocarpos.* It grows naturally among corn in moſt of the ſouthern countries of Europe. Grandi-flora.

2. The

Lepto-phylla.

2. The ſecond ſpecies is titled, *Caucalis ſeminum aculeis triglochidibus uncinatis: pilis verticillatis hiſpidis.* Haller calls it, *Caucalis involucro univerſali monophyllo, laciniis foliorum peranguſtis*; Caſpar Bauhine, *Caucalis arvenſis echinata, parvo flore & fructu*; and Columna, *Echinophora tertia leptophyllon purpurea.* It grows naturally in England, Gaul, and Italy.

Platycar-pos.

3. The third ſpecies is, *Caucalis umbellis trifidis, umbellulis triſpermis, involucris triphyllis.* Caſpar Bauhine calls it, *Caucalis Monſpeliaca echinata, magno fructu*; and Columna, *Echinophora altera aſperior platycarpos.* It grows naturally in Italy, and the ſouth of France.

Orienta-lis.

4. The fourth ſort is titled, *Caucalis umbellis patentibus, foliolis partialibus ſupradecompoſitis laciniatis: lacinulis linearibus.* Tournefort calls it, *Caucalis orientalis altiſſima, folio ferulæ.* It grows naturally in the Eaſt.

Claſs and order in the Linnæan ſyſtem.

Caucalis is of the claſs and order *Pentandria Digynia*; and the characters are,

The characters.

1. Calyx. The general umbel is unequal, and formed of a few radii. The partial is unequal, but fuller of rays, the five outer ones being larger than the others. The general involucrum is compoſed of the like number of ſpear-ſhaped, undivided, membranaceous leaves or rays of the flowers. The partial conſiſts of the ſame ſhaped leaves as the other, but they are longer than the rays, and uſually five in number. The perianthium is indented in five parts.

2. Corolla. The general corolla is difformed and radiated. The florets of the diſk are males, ſmall, and each conſiſts of five inflexed, heart-ſhaped, equal petals. The rays are hermaphrodite, and each floret has five inflexed, heart-ſhaped, unequal petals; the outer one being larger than the reſt, and bifid.

3. Stamina, in all of them, are five capillary filaments, with ſmall antheræ.

4. Pistillum of the florets of the rays conſiſts of an oblong, rough germen, ſituated below the cup, and two awl-ſhaped ſtyles, with two patent obtuſe ſtigmas.

5. Pericarpium. The fruit is oval, oblong, ſtriated longitudinally, and beſet with ſmall, ſtiff, briſtly ſpines.

6. Semina. The ſeeds are two, oblong, convex, prickly on one ſide, and plane on the other.

C H A P. LXXV.

CELOSIA, AMARANTH, or COXCOMB.

THE *Celoſia* is a genus that has often exerciſed the care and deepeſt ſkill of our beſt Gardeners, and, like thoſe of the *Bicolors* and *Tricolors* has cauſed much emulation among them, in bringing them to the greateſt perfection. The culture of it has been ſucceſsful with many, and wonderful fine plants of this ſort have been frequently exhibited; nevertheleſs, this practice is not become general, and the beſt ſhew many a Gardener can make with theſe ſorts will be but trifling. I ſhall, therefore, juſt mention the ſorts, and afterwards give the true culture of the *Celoſia.* The ſorts then are,

Deſcription of the Creſted,

1. The Creſted Amaranth, or Coxcomb. This plant admits of numerous varieties, which are known to moſt Gardeners; ſuch as the Red, Purple, Scarlet, White, Yellow, and Variegated. Great difference alſo in the form and ſhape of their heads will conſtantly appear. Theſe and their colours alter from ſeeds, and all of them are improved by good culture.

Silver-ſpiked,

2. Silver-ſpiked Amaranth. This is a diſtinct ſpecies, and its natural growth is to about two feet high. The leaves are of a pale colour, long, ſpear-ſhaped, and pointed. The ſtalks divide into a few erect ſide-branches near the top; and theſe, together with the main-ſtalk, are terminated by ſilvery ſpikes of flowers. But of this there are ſome varieties, both with reſpect to the figure, as well as colour of the flowers; ſome of the ſpikes being oblong, others pyramidical; ſome with white flowers, and others with a mixture of red. The ſpikes of all theſe are but ſmall, and entirely unlike the figure of the preceding ſpecies.

Oval-leaved,

3. Oval-leaved Amaranth. This plant is very much like the Silver-ſpiked ſort, but the leaves are oval, and the ſtalk ſeldom branches out. The flowers are for the moſt part produced in a ſingle head, and have purple ſtamina.

Dwarf Creſted,

4. Dwarf Creſted Amaranth. This is a ſmall-growing plant, and divides itſelf into many lateral branches. The leaves are of a lanceolate figure, very acutely pointed, and their under-ſide is veined with red. The flowers form a creſted ſpike, and are of ſeveral varieties.

and Incurved Creſted Amaranth

5. Incurved Creſted Amaranth. This plant riſes with a very large, thick, round, furrowed ſtalk, to the height of about four feet. The leaves are oval. The flowers are produced in the moſt delightful ſpikes, creſted various ways; they are of a bright-ſcarlet colour, though the ſame ſort of ſeeds will produce the Purple, and others with various tinges.

Cluſtered-ſpiked,

6. Cluſtered-ſpiked *Celoſia.* The leaves are of a lanceolate figure, very downy, and obtuſe. The ſpikes of flowers are produced in cluſters, and their ſtamina are woolly.

and Globoſe-ſpiked Celoſia deſcribed.

7. Globoſe-ſpiked *Celoſia.* The leaves are ſhaped like a wedge, and are very acute. The flowers are chiefly of a greeniſh colour, and the lateral ſpikes are produced in roundiſh knots, or little heads. The flowers of this ſort will ſometimes vary by ſeeds to almoſt a white colour.

Theſe are the ſpecies of the *Celoſia*, and each of them admits of ſeveral varieties. One common culture, to bring them to perfection, belongs to them all; but the ſorts which more particularly occaſion emulation among Gardeners, are the Creſted Amaranths, or Coxcombs. Let our Gardeners ſuppoſe, therefore, that we are treating of theſe diſtinctly; but let him know, if he has an extenſive collection of the different ſorts, the ſame culture will do for the others. The Coxcombs, however, are his chief delight; in theſe he principally glories, and their true culture is this.

Culture.

Firſt, let ſome ſeeds be procured from the fineſt, largeſt, and leaſt-branching plants, which ſhould be gathered from the middle of the plume, and kept ſeparate, as of ſuperior value, from thoſe collected from ſide-branches and other parts. Againſt the laſt week in February, get your hotbed in fine order for their reception. The ſoil, with which the hotbed is covered, ſhould be exceeding rich and light, and the ſeeds ſown very thinly all over the bed, and covered to about a quarter of an inch depth. The plants will ſoon come up, and the greateſt care and watchfulneſs muſt attend them. A conſtant eye muſt be had to let them have air, and as much care to prevent their having too much. If air is not afforded them, they will ſoon draw up weak, and be ſpoiled; and if they have too much of it in that tender ſtate, their deſtruction will be ſoon effected. With the obſervance of this medium the plants will be healthy, and in about three weeks will be ready for another hotbed. This muſt be prepared as before, covering it with the ſame mould about four inches thick; the violent heat muſt be abated; and then, with a hollow, ſcooping trowel, the plants muſt be carefully taken up with a ball of earth to each root, and ſet on the new hotbed, at about five inches aſunder. The watering them at theſe and the preceding times muſt be by ſprinkling them with a hay wiſp, (for too much wet is death to them in this ſtate) and if the plants have been taken up with care, a ball of earth being to each root, they will droop very little for removing. Turn the glaſſes as often as you find them wet with the ſteam of the bed; and if the weather be too cold to endanger the ſafety of the plants in doing of this, wipe off the ſteam with a woollen cloth two or three times a day, for this dropping upon the plants will be very injurious to them. Every day they muſt have as much air as poſſible, to prevent their drawing up weak, and be ſhaded with mats upon the glaſſes, when the ſun ſhines in its full ſtrength.

In about a month's time the plants will be ready for their next removal; againſt which time another good hotbed ſhould be prepared, with a good frame, and the plants ſet in threepenny pots filled with the ſame rich earth. They muſt be taken up with as much mould as poſſible to the roots, and then ſet upon the freſh hotbed; and any common garden mould may fill up the cavities. The bed muſt be of a good body of heat, and the vacancies filled up to the rims of the pots; this will prevent another removal of the roots, which is very backening to the plants, as they will be grown to be moderately large by the time they will require another hotbed. All the time they ſtand on this hotbed, they muſt have frequent waterings, though but a little of it at a time. In very hot weather the glaſſes muſt be ſhaded, air muſt be always afforded them, and every evening they muſt be protected by mats from the chilling cold of the night.

When the heat of the bed is gone off, another hotbed muſt be provided, which muſt be of a good body of dung, and made to afford as uniform a heat as poſſible. To this bed remove your frames and pots, and fill up the vacancies as before. By this time water in greater plenty may be afforded them, more air alſo in the daytime muſt be had; but obſerve ſtill to ſhade them in the heat of the day from the violence of the ſun, which by this time will be very powerful.

As the plants increaſe in ſize, the glaſſes muſt be proportionably raiſed, and in mild cloudy weather ſhould be wholly taken off. Water in ſtill greater plenty muſt be given them; and by the conſtant repetition of theſe practices, as often as the weather will permit, the plants will be regularly hardened to be ſet abroad. Do not be too precipitate with this; let July ſhew at leaſt his firſt week; the weather ſhould be perfectly mild and cloudy; and if a drizzling rain ſhould happen, it will be the better.

Their ſituation ſhould be well-ſheltered from the winds, and at leaſt for the firſt week be in the ſhade. Thus circumſtanced, watering every day in plenty muſt be given them, and every day they will reward the toil, by the enchanting ſhew of their gaudy plumes. This they will conſtantly do until the early colds advance; if no misfortune has happened to the plants, and this method of raiſing them has been duly obſerved, many of them will be ſix feet high, with creſts proportionally broad. In September the ſeeds will be ripe, and the plants with the beſt properties muſt be ſelected to afford freſh ſeeds for a ſucceſſion

Where there is the convenience of a ſtove, theſe plants, with little trouble, are brought to great perfection.

Titles.

1. The Creſted Amaranth, or Coxcomb, is titled, *Celoſia foliis lanceolato-ovatis recurvis ſubundatis, pedunculis angulatis ſpicis oblongis criſtatis.* Cammerarius calls it, *Amaranthus criſtatus.* It grows naturally in Aſia. Cristata.

2. Silver-ſpiked Amaranth is, *Celoſia foliis lanceolatis, ſtipulis ſubfalcatis, pedunculis angulatis, ſpicis ſcarioſis.* This is the *Amaranthus ſpica albeſcente habitiore* of Martin. It grows common in China. Argentea

3. Oval-leaved Amaranth is, *Celoſia foliis ovatis, ſtipulis falcatis, pedunculis angulatis, ſpicis ſcarioſis.* Caſpar Bauhine calls it, *Amaranthus ſimplici paniculâ.* It grows in America. Margari=tacea.

4. Dwarf Creſted Amaranth is, *Celoſia foliis lanceolato-ovatis lineatis acuminatiſſimis, ſtipulis falcatis, ſpicis criſtatis.* This is the *Amaranthus minor, ſpicâ ſingulari, lunatis circum caulem foliis* of Barrelier, Boccone, and others. It grows naturally in India. Castrensis

5. Incurved Creſted Amaranth is, *Celoſia foliis ovatis ſtrictis inauriculatis, caule ſulcato, ſpicis multiplicibus criſtatis.* Caſpar Bauhine calls it, *Amaranthus paniculâ incurvâ*; and John Bauhine, *Amaranthus paniculâ ſpecioſâ criſtatâ.* It grows naturally in India. Coccinea.

6. Cluſtered-ſpiked *Celoſia* is, *Celoſia foliis lanceolatis tomentoſis obtuſis, ſpicis confertis, ſtaminibus lanatis.* It grows naturally in Ceylon. Lanata.

7. Globoſe-ſpiked *Celoſia* is, *Celoſia foliis cuneiformibus acutiuſculis, ſpicis globoſis lateralibus.* Plukenet calls it, *Amaranthoides Indicum globoſum, ad caulium nodos floridum, foliis ſolitariis ſummo apice barbatis.* It grows in Ceylon. Nodiflora.

Claſs and order in the Linnæan ſyſtem.

Celoſia is of the claſs and order *Pentandria Monogynia*; and the characters are,

The characters.

1. CALYX is a perianthium compoſed of three dry, acute, coloured, permanent leaves.

2. Corolla conſiſts of five lanceolate, erect, permanent petals, which are ſtiff, and ſhaped like the flower-cup.

The nectarium is ſmall and quinquifid, and joined to the border of the germen.

3. Stamina are five ſubulated filaments the length of the corolla, with turning antheræ.

4. Pistillum is a globoſe germen, a ſubulated upright ſtyle the length of the ſtamina, and a ſimple ſtigma.

5. Pericarpium is a globoſe capſule of one cell, and opens horizontally.

6. Semina. The ſeeds are emarginated, and roundiſh.

CHAP. LXXVI.

CELSIA.

THERE is only one ſpecies of this genus, which is generally known among Gardeners by the name of Oriental Mullein.

The plant deſcribed.

The leaves are bipinnated; the radical ones are long, and lie flat on the ground. From among theſe the flower-ſtalk ariſes, to about two feet high; it is nearly round, herbaceous, and garniſhed with leaves, like the radical ones, but ſmaller. The leaves grow alternately, and they diminiſh in ſize the nearer they approach the top of the plant. The flowers adorn the ſtalk for above half the length; they come out from the footſtalks of the leaves, are of an iron colour without, but yellow within; they ſpread open, not much unlike thoſe of the Common Mullein, and are very beautiful; they come out in July, and the ſeeds ripen in the autumn.

Culture.

The ſeeds of this elegant Annual ſhould be ſown at two different times of the year, in the autumn, ſoon after they are ripe, and in the ſpring. Thoſe ſown in the autumn, if the young plants ſurvive the winter, will flower in June following, and will be certain of affording you good ſeeds for a ſucceſſion; thoſe ſown in the ſpring ſeldom flower before the end of July, or beginning of Auguſt, and ſuch plants very rarely bring their ſeeds to perfection.

They require a light, dry ſoil, and a warm ſituation, eſpecially when the ſeed is to be ſown in the autumn. After the plants come up, they require no trouble, except thinning them where they appear too cloſe, keeping them clean from weeds, and affording them water in dry weather. This laſt article ſhould be duly attended to juſt before they come into blow, if the weather makes it neceſſary, in order to cauſe them to flower ſtrong, and bring their ſeeds to perfection.

Titles.

Orientalis.

The name of this plant is, *Celſia foliis bipinnatis.* Tournefort calls it, *Verbaſcum orientale, ſophiæ folio*; and Buxbaum, *Blattaria orientalis, agrimoniæ folio.* It grows naturally in Cappadocia and Armenia.

Claſs and order in the Linnæan ſyſtem.

Celſia is of the claſs and order *Didynamia Angioſpermia*; and the characters are,

The characters.

1. Calyx is a permanent perianthium the length of the corolla, divided into five ſpear-ſhaped, obtuſe ſegments.

2. Corolla is a rotated petal. The tube is very ſhort. The limb is plane, and cut into five unequal ſegments, of which the two upper ones are nearly round and ſmall, and the lower one is the largeſt.

3. Stamina are four capillary filaments, which lean towards the upper ſegments of the corolla; of theſe two are longer than the others, and all have ſmall, roundiſh antheræ.

4. Pistillum conſiſts of a roundiſh germen, a filiforme ſtyle the length of the ſtamina, and an obtuſe ſtigma.

5. Pericarpium is a roundiſh, ſharp-pointed, bilocular capſule, compreſſed at the top, and ſituated on the calyx.

6. Semina. The ſeeds are many, angular, and ſmall.

CHAP. LXXVII.

CENTAUREA; CENTAURY:

THIS extenſive genus comprehends the following remarkable Annuals; viz.

Species.

1. Sweet Sultan.
2. Corn Bottle.
3. *Carduus Benedictus*, or Bleſſed Thiſtle.
4. Purple *Chondrilla.*
5. Lippi's Centaury.
6. White Spaniſh *Jacea.*
7. Paniculated Centaury.
8. Silvery-headed *Stœbe.*
9. *Sonchus*-leaved *Jacea.*
10. Roman Centaury.
11. Turnep-leaved Knapweed.
12. Portugal Thiſtle.
13. Star Thiſtle.
14. St. Barnaby's Thiſtle.
15. Centaury of Melita.
16. Prickly Spaniſh Centaury.

Deſcription of the Sweet Sultan.

1. Sweet Sultan. Of this there are two notable ſorts, Sweet Sultan, commonly ſo called, and the Yellow Sultan. The Sweet Sultan riſes with a round, channelled, branching ſtalk, to about a yard high. The leaves are ſmooth, jagged, and of a pale-green colour. The flowers are produced from the ſides of the branches on long, naked footſtalks; one footſtalk ſupports a ſingle head of flowers, which are of various colours in the different varieties, ſuch as White, Red, Purple, &c. Some of them are fiſtular, others fringed, and have ſtill different properties they are liable to from ſeeds. The Yellow Sultan is pretty permanent; and plants from the ſeeds of this ſort, for the moſt part, produce flowers like thoſe from which they were taken. In the Eaſtern countries they grow naturally among the corn, where they are deemed weeds; with us, who adjudge them to be beautiful Annuals, they are cultivated for the ſake of the flowers. They are called Sweet Sultan, from the agreeable fragrance they poſſeſs; but this odour is of a very ſtrong, ſharp nature, and is as diſagreeable to many as it is grateful to others.

Culture.

Theſe plants are raiſed by ſowing of the ſeeds on a common hotbed in March, or early in April. When the plants come up they muſt have plenty of air, and frequent waterings, or they will be ſoon ſpoiled. In May they ſhould be taken out with a ball of earth to each root, and ſet in the places where they are deſigned to flower. They will flower in July, and continue in ſucceſſion until the froſt ſtops them. If wet ſeaſons ſhould happen, they rarely perfect their ſeeds; for which reaſon a few plants ſhould be left in the hotbed, having a deep frame, to be protected by the glaſſes at the time of flowering, in order to enſure good ſeeds.

The ſeeds of theſe ſorts may be alſo ſown in the open ground in the ſpring; they will readily come up, and afterwards require no trouble, except thinning, and keeping them clean from weeds. Such plants will flower in the autumn, but very rarely perfect their ſeeds.

In order to have them flower early in the ſummer, the ſeeds may be ſown in the autumn, ſoon after they are ripe; the plants will immediately come up; and if the ſoil is naturally warm and well defended, ſuch plants will out-live the winter, flower the June following, and good ſeeds may be reaſonably expected to follow.

The Yellow Fiſtular Sultan, being more tender than the others, ſhould have the ſeeds ſown in boxes filled with light, good earth. The plants in theſe boxes muſt be protected by a hotbed-frame, or ſome ſhelter, in bad weather, and in the ſpring ſet abroad with other Annuals, where they will flower early, and perfect their ſeeds.

Corn Bottle deſcribed.

2. Corn Bottle. This ſpecies grows naturally among our corn, as the former does in the fields of Perſia. It is a plant of about a yard or four feet high. The lower leaves are indented, but thoſe on the upper-parts of the ſtalks are narrow and entire. The original colour of the flower is blue, and the ſpecies of this colour uſually ſports in our fields among the corn; in our gardens their colours are numerous, and the variety they cauſe is very beautiful.

Method of propagation.

This plant is raiſed by ſowing of the ſeeds in the autumn, ſoon after they are ripe, or in the ſpring; in either caſe they ſucceed very well, and hardly any ſoil comes amiſs to them. They ſhould be ſown in the places where they are to remain; and when they come to flower, the worſt ſhould be drawn out, whilſt thoſe of the beſt properties and brighteſt colours ſhould be ſaved for ſeeds.

This buſineſs muſt be every year ſtrictly obſerved, or your Garden-Bottles, which for diſtinction they are ſometimes called, will ſoon degenerate into the Common Blue-bottles of our corn fields.

Carduus Benedictus deſcribed.

3. *Carduus Benedictus*, or Bleſſed Thiſtle. This is chiefly propagated in gardens for medicinal purpoſes, being what is commonly called *Carduus*, a plant well known in the ſhops. The ſtalks are branching, hairy, reddiſh, and grow to about two feet high. The leaves are long, hairy, decurrent, ſinuated, and each ſegment is terminated by a ſoft ſpine. The flowers are produced from the ends of the branches, being collected in oval, ſcaly cups, of which each ſcale is terminated by a long, ſlender, ſerrated ſpine. The flowers are of a pale-yellow colour, uſually come out in June, and the ſeeds ripen in the autumn.

Culture.

The ſeeds will grow, if ſown in the ſpring, in a bed of common mould; though if they are ſown in the autumn, ſoon after they are ripe, the plants will ſtand the winter well, be larger, and flower earlier than thoſe raiſed in the ſpring.

If large quantities of *Carduus* are to be raiſed to ſupply the markets, the beſt way is to ſow the ſeeds thinly in rows a foot aſunder; in the ſpring the plants ſhould be thinned, drawing out the weakeſt, and leaving the others ſix or eight inches aſunder in the rows. From this time they muſt be kept clean from weeds, watered twice a week in dry weather, and this is all the trouble they will require until they are cut for uſe, the time for which is when they are in full blow. After they are cut, they ſhould be ſpread in a dry, airy room for a few days; then let them be tied up in bunches, and hung up to dry to be ready for uſe.

This ſort bears removing well; ſo that when the beds are thinned, the plants need not be thrown away, but made to occupy a freſh quarter.

Purple Chondrilla,

4. Purple *Chondrilla*. The leaves of this Annual are pinnated. The folioles are rough, ſerrated, and the lower ones are recurved. The flowers are produced from the ends of the branches in July. The cups in which they are collected are compoſed of many narrow, awl-ſhaped ſcales, and there are but a few florets in each head; their colour is purple, and the florets in the radius are divided into four ſegments, whereas thoſe of moſt of the other ſpecies are cut into five.

Lippi's Centaury,

5. Lippi's Centaury will grow to about two feet high, and divide into a few branches near the top. The leaves are pinnatifid, decurrent, and obtuſe. The flowers are ſmall, and their colour is a bright-purple. They are collected in cups compoſed of many ſharp-pointed ſcales; they uſually appear in July, and the ſeeds ripen in the autumn.

White Spaniſh Jacea,

6. White Spaniſh *Jacea*. The root is creeping. The ſtalks riſe to about half a foot high. The leaves are oblong, lyre-ſhaped, hairy, indented, and of a pale-green colour. The flowers are white, and collected in heads ſurrounded with many ſmall leaves; they uſually come out in July, and the ſeeds ripen in the autumn.

and Paniculated Centaury, deſcribed.

7. Paniculated Centaury. This riſes with a leafy, branching ſtalk, to the height of three or four feet. The leaves are bipinnatifid; the parts are narrow, rough, and adorn the plant in great plenty. The flowers grow in panicles from the ends of the branches; their colour is purple, having white ſtyles; they come out in July, and the ſeeds ripen in the autumn.

Variety.

There is a variety of this ſpecies with hoary leaves, and very large flowers.

Deſcription of the Silvery-headed Stoebe.

8. Silvery-headed *Stoebe*. The radical leaves are bipinnatifid, and ſpread themſelves on the ground. Among theſe the ſtalks riſe to about a foot and a half high, garniſhed with pinnated leaves. The flowers are collected in white or ſilvery cups, compoſed of many obtuſe ſcales; their colour is purple, and they often make their appearance in June.

Culture.

This ſpecies is rather a Biennial; ſo that if the ſeeds are ſown in May, the plants will grow ſtrong by the autumn, and flower early the ſummer following; but if they are ſown early in the ſpring, they will ſometimes flower by the end of the ſummer, but rarely perfect their ſeeds.

Sonchus-leaved Jacea,

9. *Sonchus*-leaved *Jacea*. The ſtalk is ſtrong, winged, and branching a little. The leaves are broad, deeply ſinuated, prickly, and decurrent. The flowers are collected in large, turbinated, prickly cups; their colour is purple, and they make their appearance in July and Auguſt.

Roman Centaury,

10. Roman Centaury. The radical leaves are pinnatifid, and moderately large; thoſe on the ſtalks are ſmaller, decurrent, and have no prickles. The flowers have prickly cups; their colour is red, and they generally ſhew themſelves in July and Auguſt.

Turnep-leaved Knapweed,

11. Turnep-leaved Knapweed. The ſtalk of this plant is upright, branching, and grows to about a yard high. The radical leaves are large, prickly, rounded at the ends, ſinuated at the baſe, and much reſemble thoſe of the Turnep; thoſe on the ſtalks are ſmall, and decurrent, having wings or borders running along the ſtalks from the baſe of one to the other. The flowers are produced from the ends of the branches in prickly cups; they are of a bright-purple colour, come out in July, and the ſeeds ripen in the autumn.

Portugal Thiſtle,

12. Portugal Thiſtle. The ſtalk is thick, winged, hairy, and branching. The leaves are very hoary, a little ſinuated on the borders, and decurrent. The flowers grow from the tops of the ſtalks in prickly, woolly cups; their colour is yellow, and they appear about the ſame time with the former.

Star Thiſtle,

13. Star Thiſtle. The ſtalk is hairy, branching, and grows to about two feet high. The leaves are pinnatifid, narrow, indented, and free from prickles. The flowers grow from the tops of the branches in prickly cups; their colour is purple; they make their appearance in July and Auguſt, and the ſeeds ripen in the autumn.

St. Barnaby's Thiſtle.

14. St. Barnaby's Thiſtle. The ſtalk is membranaceous, and grows to about two feet high. The leaves are lyre-ſhaped, pinnatifid, decurrent, and have no prickles. The flowers grow in prickly cups; their colour is yellow; they come out in July and Auguſt, and the ſeeds ripen in the autumn.

Centaury of Melita,

15. Centaury of Melita. The ſtalk is membranaceous, branching, and about two feet high. The leaves are ſpear-ſhaped, ſinuated, decurrent, and free from prickles. The flowers are collected in roundiſh heads at the tops of the branches; their colour is yellow, and they come forth in July and Auguſt.

and Prickly Spaniſh Centaury deſcribed.

16. Prickly Spaniſh Centaury. The lower leaves of this ſpecies are pinnatifid, and thoſe on the upper-part of the plant ſpear-ſhaped. The flowers have prickly cups, grow on long footſtalks, and make their appearance about the time of the other ſorts.

Propagation.

The culture of the firſt three ſorts is diſtinctly given, and one common management belongs to all the others. They are raiſed from ſeeds in beds of common garden-mould; the ſeeds ſhould be ſown at two different times in the ſpring, and in the autumn, ſoon after they are ripe. The ſpring-raiſed plants flower late in the ſummer; and if very wet ſeaſons ſhould happen, the ſeeds of many of the ſorts will not ripen well.

The autumnal ſeed ſhould have a well-ſheltered ſituation, to prevent the plants from being deſtroyed by the ſeverity of a hard winter, ſhould it happen. If the plants ſurvive the winter, which they will for the moſt part do, ſuch plants will flower early the ſummer following, and be pretty ſure of affording you good ſeeds for a ſucceſſion.

If the autumnal plants ſhould be deſtroyed, the ſpring-raiſed plants ſhould come in late, and a very wet ſeaſon happen at the time of flowering, it would be proper to nip off the ſmalleſt heads, and place oiled paper or ſome carnation-glaſſes over the others, which will prevent their being damaged by the wet, and thus enſure you good ſeeds.

Titles.

Moschata.

1. Sweet Sultan is titled, *Centaurea calycibus inermibus ſubrotundis glabris: ſquamis ovatis, foliis lyrato-dentatis.* Moriſon calls it, *Cyanus orientalis moſchatus, flore purpureo & albo*; alſo, *Cyanus orientalis major, foliis magis diſſectis, flore luteo*; and Dodart, *Cyanus orientalis, flore luteo fiſtuloſo.* It grows naturally in Perſia.

Cyanus.

2. Corn Bottle is, *Centaurea calycibus ſerratis: foliis linearibus integerrimis: infimis dentatis.* Lobel calls it, *Cyanus vulgaris*; and Caſpar Bauhine, *Cyanus ſegetum*; alſo, *Cyanus hortenſis, flore ſimplici*;

and *Cyanus hortenſis*, *flore pleno.* It grows naturally among the corn in England, and moſt countries of Europe.

Benedicta. 3. *Carduus Benedictus*, or Bleſſed Thiſtle, is, *Centaurea calycibus duplicato-ſpinoſis lanatis involucratis, foliis ſemidecurrentibus denticulato-ſpinoſis.* In the *Hortus Cliffort.* it is termed, *Cnicus caule diffuſo, foliis dentato ſinuatis.* Caſpar Bauhine calls it, *Carduus ſylveſtris hirſutus, ſive carduus benedictus*; and Cammerarius, *Carduus benedictus.* It grows naturally in Chios, Lemnos, and Spain.

Crupina. 4. Purple *Chondrilla* is, *Centaurea calycibus inermibus: ſquamis lineari-ſubulatis, foliis pinnatis ſerratis.* Caſpar Bauhine calls it, *Chondrilla foliis laciniatis ſerratis, purpuraſcente flore*; and Columna, *Senecio-carduus Apulus.* It grows naturally on the hills of the Eaſt, Hetruria, and France.

Lippii 5. Lippi's Centaury is, *Centaurea calycibus inermibus: ſquamis mucronatis, foliis decurrentibus pinnatifidis obtuſis.* It is a native of Ægypt.

Pullata. 6. White Spaniſh *Jacea* is, *Centaurea calycibus ciliatis verticillato-folioſis, foliis lyratis dentatis obtuſis.* Sauvages calls it, *Centaurea inermis, calycum ciliis pinnatis, foliis oblongis villoſis humifuſis, floralibus verticillatis ligulatis*; Caſpar Bauhine, *Jacea humilis alba, hieracii folio*; John Bauhine, *Jacea Monſpeſſulana, cui in ſquamis fibræ nigræ, interdum acaulis*; and Lobel, *Jacea pumila ſerpens acaulis fermè, flore albo.* It grows naturally in France, Spain, and the Eaſt.

Paniculata. 7. Paniculated Centaury is, *Centaurea calycibus ciliatis: ſquamis planis foliis bipinnatifidis, rameis pinnatifidis linearibus, caule paniculato.* Sauvages calls it, *Centaurea calycibus ciliatis, foliis filiformibus bipinnatis, caule folioſo ramoſo*; Gmelin, *Centaurea calycibus ciliatis oblongis, foliis ſcabris, caulium pinnatis, ramorum ſimpliciſſimis linearibus*; Moriſon, *Jacea non ſpinoſa, foliis magis diviſis elatior, capitulis minoribus non ſplendentibus*; Caſpar Bauhine, *Stœbe major, cauliculis non ſplendentibus*; and John Bauhine, *Centaurii majoris ſpecies tenuifolia.* It grows naturally in France, Spain, Auſtria, Verona, Siberia, and Germany.

Splendens. 8. Silvery-headed *Stœbe* is, *Centaurea calycibus ſcarioſis obtuſis, foliis radicalibus bipinnatifidis; caulinis pinnatis dentibus lanceolatis.* Tournefort calls it, *Jacea, calyculis argenteis, major*; Caſpar Bauhine, *Stœbe caliculis argenteis*; and Cluſius, *Stœbe Salmantica 3.* It grows naturally in Switzerland, Siberia, and Spain.

Sonchifolia. 9. *Sonchus*-leaved *Jacea* is, *Centaurea calycibus palmato-ſpinoſis, foliis decurrentibus ſpinuloſis repando-dentatis.* Caſpar Bauhine calls it, *Jacea laciniata, ſonchi folio, ſ. Jacea latifolia purpurea, capite ſpinoſo.* It grows naturally on the Mediterranean coaſts.

10. Roman Centaury is, *Centaurea calycibus palmato-ſpinoſis, foliis decurrentibus inermibus: radicalibus pinnatifidis: impari maximo.* Zan calls it, *Jacea ſpinoſa Cretica*; and Barrelier, *Cyanus erucæ folio, flore rubro.* It grows naturally in Campania. Romana.

11. Turnep-leaved Knapweed is, *Centaurea calycibus palmato ſpinoſis, foliis decurrentibus ſinuatis ſpinuloſis: radicalibus lyratis.* Herman calls it, *Jacea cyanoides altera, caule alato*; and Plukenet, *Jacea peregrina napifolia, echinatis capitulis, caule alato.* It is a native of Crete. Napifolia.

12. Portugal Thiſtle is, *Centaurea calycibus duplicato-ſpinoſis lanatis, foliis ſemidecurrentibus integris ſinuatiſque caule prolifero.* In the *Hortus Cliffort.* it termed, *Centaurea calycibus duplicato-ſpinoſis, foliis decurrentibus integris.* Vaillant calls it, *Calcitrapa lutea, alato caule, capite eriophoro*; and Tournefort, *Carduus Luſitanicus caneſcens, alato caule, capite lanuginoſo.* It grows naturally in Luſitania. Eriophora.

13. Star Thiſtle is, *Centaurea calycibus ſubduplicato-ſpinoſis ſeſſilibus, foliis linearibus pinnatifidis lateralibus dentatis, caule piloſo.* In the *Hortus Cliffort.* it is termed, *Centaurea calycibus ſubulato-ſpinoſis ſeſſilibus, foliis linearibus pinnatifidis*: John Bauhine calls it, *Carduus ſtellatus, ſ. calcitrapa*; Caſpar Bauhine, *Carduus ſtellatus, foliis papaveris erratici*; and Cluſius, *Carduus muricatus, vulgò calcitrapa dictus.* It grows naturally in England, and many parts of Europe. Calcitrapa.

14. St. Barnaby's Thiſtle is, *Centaurea calycibus duplicato-ſpinoſis ſolitariis, foliis rameis decurrentibus inermibus lanceolatis radicalibus, lyrato-pinnatifidis.* Caſpar Bauhine calls it, *Carduus ſtellatus luteus foliis cyani*; and Columna, *Carduus ſtellatus mitior Apulus.* It grows naturally in England, Gaul, and Italy. Solstitialis.

15. Centaury of Melita is, *Centaurea calycibus duplicato-ſpinoſis terminalibus confertis: foliis decurrentibus lanceolatis ſinuoſis inermibus.* Boccone calls it, *Jacea Melitenſis, capitulis conglobatis.* It is a native of Melita, and the South of France. Melitensis.

16. Prickly Spaniſh Centaury is, *Centaurea calycibus ſimpliciſſimè ſpinoſis, foliis inferioribus pinnatifidis, ſuperioribus lanceolatis, pedunculis longiſſimis.* Caſpar Bauhine calls it, *Jacea, cyanoides, echinato capite*; and Dodonæus, *Cyanoides flos.* It grows naturally in Spain. Muricata.

CHAP. LXXVIII.

CENTUNCULUS.

THERE is only one ſpecies of this genus, commonly called Baſtard Pimpernel.

The plant deſcribed.

The root is very ſlender, white, and fibrous. The ſtalks are round, three or four inches long, and lie on the ground. The leaves are ſmall, oval, ſpear-ſhaped, and grow alternately. The flowers come out ſingly from the wings of the leaves; they are of a white colour, and extremely ſmall; they appear in May and June, and the ſeeds ripen ſoon after.

This plant grows naturally in moiſt, ſandy places in England, and is never propagated.

Titles.

Minimus.

It being the only ſpecies of the genus, it is termed ſimply, *Centunculus.* In the *Flora Suecia* it is termed, *Centunculus foliis alternis ovatis.* Micheli calls it, *Anagallidiaſtrum exiguum, foliis lanceolatis alternis*; Vaillant, *Anagallis paludoſa minima*; and Mentzelius, *Alſine paluſtris minima, floſculis albis, fructu coriandri exiguo.* It grows naturally in England, Germany, Gaul, and Italy.

Claſs and order in the Linnæan ſyſtem.

Centunculus is of the claſs and order *Tetrandria Monogynia*; and the characters are,

The characters.

1. Calyx is a patent, permanent perianthium, divided into four ſpear-ſhaped, acute ſegments, which are longer than the corolla.

2. Corolla is one rotated petal. The tube is nearly globular; the limb is plane, and divided into four nearly oval ſegments.

3. Stamina are four filaments almoſt the length of the corolla, having ſimple antheræ.

4. Pistillum conſiſts of a roundiſh germen within the tube of the corolla, a filiforme permanent ſtyle the length of the corolla, and a ſimple ſtigma.

5. Pericarpium is a globular capſule, containing one cell.

6. Semina. The ſeeds are many, roundiſh, and ſmall.

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CHAP. LXXIX.

CERASTIUM, MOUSE-EAR CHICKWEED.

THE Annuals of this genus are,

Species.

1. Perfoliate Mouſe-Ear Chickweed.
2. Broad-leaved Viſcous Mouſe-Ear Chickweed.
3. Leaſt Mouſe-Ear Chickweed.
4. Pentandrous Mouſe-Ear Chickweed.
5. Horned Mouſe-Ear Chickweed.
6. Mouſe-Ear Chickweed of Verona.

Deſcription of Perfoliate,

1. Perfoliate Mouſe-Ear Chickweed. This plant riſes with an upright ſtalk to about a foot high. The leaves much reſemble thoſe of Lobel's Catch-fly; they grow two oppoſite at the joints, and their baſes join together. The flowers are white, and ſhaped like thoſe of common Chickweed; they come out from the wings of the leaves and tops of the ſtalks in May and June, and their ſeeds ripen ſoon after.

Broad-leaved Viſcous,

2. Broad-leaved Viſcous Mouſe-Ear Chickweed. The ſtalks are erect, hairy, and clammy to the touch. The leaves alſo are clammy, hairy, and broad. The flowers grow from the tops of the ſtalks and wings of the leaves in June, and the ſeeds ripen in Auguſt.

Leaſt,

3. Leaſt Mouſe-Ear Chickweed. This is a low plant, and deemed a weed every-where. The ſtalks are ſlender, hoary, and hairy. The leaves alſo are hairy, hoary, and grow oppoſite to each other. The flowers are ſmall, and being ſhorter than the calyx make no appearance. The petals, upon examination, are indented; and in each of them are found five filaments only, which bear antheræ.

Pentandrous,

4. Pentandrous Mouſe-Ear Chickweed. This is another low plant like the former, but of a fine green colour. The petals of the flowers are whole, and ſhorter than the calyx. Five ſtamina only in this ſpecies are found fertile.

and Horned Mouſe-Ear Chickweed

5. Horned Mouſe-Ear Chickweed. The ſtalk of this plant branches much, divides by pairs, and grows to about half a foot high. The leaves are ſpear-ſhaped, grow by pairs, and feel clammy to the touch. The flowers are white, and like thoſe of Chickweed; they come out from the diviſions of the branches in May and June, and the ſeeds ripen ſoon after.

Mouſe-Ear Chickweed of Verona deſcribed.

6. Mouſe-Ear Chickweed of Verona. This plant hath a fibrous root, from which ariſe many

ſmooth ſtalks to about a foot high. The leaves are ſpear-ſhaped, ſmooth, and grow oppoſite to each other at the joints. The flowers are produced from the tops of the ſtalks and wings of the leaves on very long footſtalks; they come out in June and July, and the ſeeds ripen ſoon after.

Culture. These plants are all of very little beauty; and nothing but a love of variety, and thirſt after a general collection of plants for philoſophical obſervation, can induce any one to admit them into his garden. A botanic garden, however, may be thought imperfect without a few of them, which is the reaſon of their being mentioned here.

Their culture is very eaſy. Sow the ſeeds in any ſoil or ſituation, and they will readily come up; afterwards they will flower, ſcatter their ſeeds, and produce plants for a ſucceſſion without further trouble.

It has been remarked that many of them flower in May; this muſt be underſtood of ſuch plants as have ariſen from ſcattered ſeeds the autumn before, and had endured the winter. If the ſeeds are ſown in the ſpring, the plants muſt not be expected to flower before the end of June, or beginning of July.

Titles. 1. Perfoliate Mouſe-Ear Chickweed is titled, *Ceraſtium foliis connatis.* Tournefort calls it, *Myoſotis orientalis perfoliata, lychnidis folio.* It is a native of Greece. Perfoliatum.

Viſcoſum. 2. Broad-leaved Viſcous Mouſe-Ear Chickweed is, *Ceraſtium erectum villoſo-viſcoſum.* In the *Flora Lapp.* it is termed, *Ceraſtium corollâ calyci æquali.* Vaillant calls it, *Myoſotis hirſuta altera viſcoſa*; and Caſpar Bauhine, *Alſine hirſuta altera viſcoſa.* It grows naturally in dry paſtures and meadows in England, and moſt countries of Europe.

Semidecandrum. 3. Leaſt Mouſe-Ear Chickweed is, *Ceraſtium floribus pentandris, petalis emarginatis.* In the *Flora Lapp.* it is termed, *Ceraſtium corollâ calyce breviore.* Ray calls it, *Ceraſtium hirſutum minus, parvo flore*; Vaillant, *Myoſotis arvenſis hirſuta minor*; and Caſpar Bauhine, *Alſine hirſuta minor.* It grows naturally in dry, ſterile parts of England, and moſt of the northern countries of Europe.

Pentandrum. 4. Pentandrous Mouſe-Ear Chickweed is, *Ceraſtium floribus pentandris, petalis integris.* It is a native of Spain.

Dichotomum. 5. Horned Mouſe-Ear Chickweed is, *Ceraſtium foliis lanceolatis, caule dichotomo ramoſiſſimo, capſulis erectis.* Caſpar Bauhine calls it, *Lychnis ſegetum minor*; and Cluſius, *Alſine corniculata.* It grows naturally among the corn in Spain.

Manticum. 6. Mouſe-Ear Chickweed of Verona is, *Ceraſtium glabrum, caule ſtricto, foliis lanceolatis, pedunculis longiſſimis, capſulis globoſis.* Seguier calls it, *Alſine caryophylloides glabra, florum pediculis longiſſimis.* It is a native of Verona.

CHAP. LXXX.

CERATOCARPUS.

THERE is only one ſpecies of this genus, called *Ceratocarpus.*

The plant deſcribed. The ſtalk is upright, ſlender, branching, and ſix or eight inches high. The leaves are long, narrow, graſſy, pointed, and of a pale-green colour. The flowers come out from the wings of the leaves and diviſions of the branches, the male flowers uſually growing in ſmall cluſters, and the females ſingly; they appear in July, and the ſeeds ripen in September.

Culture. This plant is propagated by ſowing the ſeeds in the autumn, ſoon after they are ripe, or the ſpring following, in ſome light ſandy part of the garden; and after the plants come up they will require no trouble, except thinning them where they are too cloſe, and keeping them clean from weeds.

Title. Arenarius. This being the only ſpecies of the genus yet known, it is named ſimply *Ceratocarpus.* It grows naturally in the ſandy parts of Tartary.

Claſs and order in the Linnæan ſyſtem. *Ceratocarpus* is of the claſs and order *Monoecia Monandria*; and the characters are,

The characters.

I. Male Flowers.

1. Calyx is monophyllous, erect, obtuſe, equal, and divided into two parts.

2. Corolla. There is none.

3. Stamina conſiſt of one filament longer than the corolla, having an oval, didymous anthera.

II. Female Flowers.

1. Calyx is two ſmall leaves growing to the germen.

2. Corolla. There is none.

3. Piſtillum conſiſts of an oval, compreſſed germen, and two capillary ſtyles with ſimple ſtigmas, one of them being erect, the other horizontal.

4. Pericarpium is a compreſſed, two-horned capſule, formed of two valves, and adhering cloſe to the ſeed.

5. Semen. The ſeed is oblong, compreſſed, covered with the capſule, having on each ſide a longitudinal ſuture, and terminated by two ſtraight, awl-ſhaped horns.

CHAP. LXXXI.

CERINTHE, HONEY-WORT.

THE ſpecies of this genus, which is confeſſedly an Annual, is called *Cerinthe Major*, or Greater Honey-wort.

The plant deſcribed. The ſtalks are round, thick, branching, and grow to about two feet high. The leaves are heart-ſhaped, broad, obtuſe, ſpotted, and of a bluiſh-green colour. The flowers are produced from the tops of the branches, which bend downward; they are of a reddiſh-purple colour, come out in June and July, and the ſeeds ripen in Auguſt.

Variety. There is a variety of this ſpecies with very rough leaves and yellow flowers, and another with flowers that are almoſt white.

Method of propagation. They are all propagated by ſowing of the ſeeds ſoon after they are ripe: They will readily come up; and, if the ſituation be tolerably well ſheltered, the plants will ſtand the winter, and flower early the ſummer following. The ſeeds, may be ſown in the ſpring; but the plants will be ſmaller, and flower much later in the year.

Whoever is deſirous of retaining the varieties as perfect as poſſible, ſhould keep the ſorts ſeparate, and always mark the beſt for ſeeds. But tho' ſuch nice attendance be denied them, they will not reſent the uſage; for after they have once got poſſeſſion of a garden, they will ſcatter their ſeeds, and afford you a ſucceſſion of plants ſpontaneouſly.

Titles. Major. *Cerinthe Major*, or Greater Honey-wort, is titled, *Cerinthe foliis amplexicaulibus, fructibus geminis, corollis obtuſiuſculis patulis.* In the *Hortus Cliffort.* it is termed, *Cerinthe foliis cordatis ſeſſilibus.* Haller calls it, *Cerinthe foliis caulem amplexicaulibus, dentibus floris revolutis breviſſimis*; and Caſpar Bauhine, *Cerinthe flore rubro purpuraſcente*; alſo, *Cerinthe, flore flavo, aſperior.* It is found growing naturally in moſt of the ſouthern parts of Europe.

CHAP. LXXXII.

CHEIRANTHUS, STOCK JULY-FLOWER.

Introduction. ALL the ſpecies of the *Cheiranthus* are of no very long duration. The Wall-flower is well known to remain only a few years; and the Stock July-flowers might with no impropriety be brought in this place, and treated as Biennials. They have a place, however, among the Perennials; for they will ſometimes continue for ſeveral years, and therefore claimed admittance among their brethren the Wall-flowers in the Perennial tribe. Thoſe ſpecies which may more properly be called Annuals, are,

Species.
1. The Dwarf Virginian Stock July-flower.
2. The Ten Weeks Stock.
3. The Narrow-leaved Sea Stock July-flower,
4. The Broad-leaved Sea Stock July-flower.
5. Hairy-podded *Cheiranthus.*
6. Quadrangular-podded *Cheiranthus.*
7. Cylindrical-podded *Cheiranthus.*

More ſpecies of this genus might be added; but theſe are the principal ones, and among them are numbers of varieties, which are titled by authors as diſtinct ſpecies. They are of no very extraordinary rank in the Gardening World; but they have their uſes and beauties; and tho' they do not equal the beauty of a *Gomphrena*, an *Amaranthus*, or the like, their eaſineſs of culture is in ſome meaſure a counter-balance for this defect, and they cauſe variety in their humble ſtate.

Deſcription and propagation of the Dwarf Virginian Stock July-flower. 1. The Dwarf Virginian Stock July-flower. This is a low-growing plant, ſeldom riſing higher than half a foot. The leaves are ſpear-ſhaped, and of a thickiſh conſiſtence for ſo ſmall a plant; they are of a greeniſh colour, and their ends are not very acute. The branches are very diffuſe, grow irregular, and intermix with one another. The flowers are produced in looſe ſpikes at the ends of the branches, each being compoſed of four petals placed oppoſite to each other; they are of a purple colour, and, by being ſown at different times, may be made to blow all the latter months of the ſummer and the autumn. They are uſually ſown in patches about the flower-garden, and often uſed for edgings. In order to have a ſucceſſion of them for a long time, let the firſt ſowing be made in September; the ſecond, the end of March; and the third, the firſt week in May. Thoſe ſeeds that were ſown in September will flower early in the ſummer; thoſe ſown in March will ſucceed in order; and thoſe ſown in May will be in blow in October.

Ten Weeks Stock deſcribed. 2. Ten Weeks Stock. This ſpecies will grow to about a foot in height. The ſtalk is ſmooth, round, and branching. The leaves are placed on it without order, are of a lanceolated figure, a little indented, have their ends obtuſe, and are very hoary. The flowers are produced from the ends of the branches in looſe ſpikes. Each, in

Propagation of it.

in its ſingle ſtate, is compoſed of four heart-ſhaped, ſpreading petals, placed oppoſite. The Double flowers are chiefly preferred; and the variety with reſpect to colours are, the Red, the White, the Purple, and the Variegated. They may be continued in blow for many months, if ſown at different times, like the former ſpecies; though it would be adviſeable to ſow the ſeeds for the firſt blow early in the ſpring on a hot-bed, and tranſplant them, with other Annuals, on a moiſt day, if poſſible, to the places where they are intended to flower. From theſe firſt-raiſed plants the ſeeds ſhould be collected for a ſucceſſion.

Deſcription and Propagation of Narrow-leaved

3. Narrow-leaved Sea Stock July-flower hath many narrow, ſpear-ſhaped, downy leaves. The ſtalk will grow to about a foot in height, is ligneous, branching, downy, and produces the flowers from the ends in looſe ſpikes. Theſe flowers are ſmall, and of a bright-red colour at their firſt appearance, but die away to a purple. The time of blow may be prolonged by ſowing the ſeeds at different times; though it ſhould be always a law to ſow ſome ſeeds in the autumn, in a warm, well-ſheltered place, to produce ſeeds for the ſucceſſion; for there will not always be a certainty of obtaining good ſeeds from plants ſown in the ſpring. The crop ſown in autumn will flower early in June; and by different ſowings in the ſpring the ſucceſſion may be continued until the end of October.

and Broad-leaved Sea Stock July-flower.

4. Broad-leaved Sea Stock July-flower. The leaves are near an inch broad, about two inches long, lyre-ſhaped, ſinuated on their edges, and very downy. The ſtalks are ſlender, weak, hoary, and garniſhed with ſmall, ſinuated, hoary leaves. The flowers are produced from the ends of the branches in looſe ſpikes; and others alſo will appear ſingly from the ſides of the ſtalks: Their colour is purple, and they are ſucceeded by three-pointed, downy pods. The ſame precaution with regard to the firſt crop muſt be obſerved here alſo; the ſeeds muſt be ſown early in the autumn; and if the plants come up, they will live through the winter, and flower early in June.

Deſcription and propagation of Hairy-podded

5. Hairy-podded *Cheiranthus*. The leaves are ſpear-ſhaped, retuſe, and a little indented. The ſtalks are upright, branching, and will grow to near two feet high. The flowers are produced ſingle from the ſides of the ſtalks near the top; they are ſmall, of a purpliſh colour, and are ſucceeded by ſubulated, pointed pods. The laws for a ſucceſſion of blow are to be obſerved in this ſpecies as well as the others.

and Quadrangular-podded Cheiranthus.

6. Quadrangular-podded *Cheiranthus*. There are two remarkable varieties of this ſpecies; one with indented leaves; the other with leaves entire, which are ſpear-ſhaped, ſmooth, and ſit cloſe to the ſtalks. The ſtalks will grow to about a foot high, are branching, channelled, and produce the flowers from the ends in looſe ſpikes. Theſe flowers are of a yellow colour, and much reſemble thoſe of the Common Single Wall-flower, but are not poſſeſſed of its agreeable fragrance; they will be in blow in June, and their flowers are ſucceeded by four-cornered pods. This ſpecies will flouriſh upon old walls, rubbiſh, &c. like our Common Wall-flower; and ſome plants once obtained will ſcatter their ſeeds, which will come up, and continue the ſucceſſion without trouble in almoſt any ſoil or ſituation.

Cylindrical-podded-Cheiranthus deſcribed.

7. Cylindrical-podded *Cheiranthus*. This ſpecies is a Biennial. The leaves are narrow, ſmooth, and much reſemble thoſe of Lavender. The ſtalk is branching, and will grow to about a foot high. The flowers are produced from the ſides of the ſtalks, are ſeſſile, ſmall, of a worn-out purple colour, will be in blow in June, and are ſucceeded by cylindrical pods, containing the ſeeds.

Propagation of it.

The ſeeds of this ſpecies ſhould be ſown in May, and early in the autumn the plants ſhould be removed to the places where they are deſigned to flower, which will be in the June following. If the ſeeds alſo are gathered, and ſown as ſoon as they are ripe, or if they are permitted to ſcatter themſelves, they will ſoon come up, and will be plants forward enough to flower ſtrong the ſummer following.

Titles.

1. Dwarf Virginian Stock July-flower is titled, *Cheiranthus foliis lanceolatis acutiuſculis, caule diffuſo, antheris eminentibus.* Tournefort calls it, *Heſperis maritima ſupina exigua*; John Bauhine and Plukenet, *Leucojum maritimum parvum, folio vireſcente craſſiuſculo.* It grows common on the ſea coaſts in moſt of the ſouthern parts of Europe. Maritimus.

2. Ten Weeks Stock is titled, *Cheiranthus foliis lanceolatis ſubdentatis obtuſis incanis, ſiliquis cylindricis apice acutis, caule herbaceo.* Caſpar Bauhine calls it, *Leucojum incanum minus.* It grows naturally on the ſea-coaſts in the ſouthern parts of Europe. Annuus,

3. The Narrow-leaved Sea Stock July-flower is, *Cheiranthus foliis lanceolatis ſubdentatis ſubtomentoſis ſubcarnoſis, petalis emarginatis, ſiliquis tomentoſis.* Caſpar Bauhine calls it, *Leucojum maritimum anguſtifolium*; Cluſius, *Leucojum maritimum minus.* It grows common on the Mediterranean ſhores. Littoreus.

4. Broad-leaved Sea Stock July-flower is, *Cheiranthus ſiliquorum apicibus tridentatis, foliis lyratis.* Cammerarius and Moriſon call it, *Leucojum marinum.* It alſo grows naturally on the ſouthern coaſts of Europe. Tricuſpidatus.

5. Hairy-podded *Cheiranthus* is titled, *Cheiranthus foliis obovatis, aveniis emarginatis, ſiliquis apice ſubulatis.* Van Royen calls it, *Heſperis caule ramoſiſſimo, foliis lanceolatis dentatis*; Dillenius, *Heſperis ſiliquis hirſutis, flore parvo rubello*; and Herman, *Leucojum thlaſpeos facie.* It is a native of Chios. Chius.

6. Quadrangular podded *Cheiranthus* is titled, *Cheiranthus foliis lanceolatis dentatis, caule recto, ſiliquis tetragonis.* Caſpar Bauhine calls it, *Leucojum luteum ſylveſtre anguſtifolium*; John Bauhine, *Leucojum ſylveſtre.* It grows naturally in Hungary, Iſtria, &c. Erysimoides.

7. Cylindrical-podded *Cheiranthus* is titled, *Cheiranthus foliis linearibus ſubſinuatis, floribus ſeſſilibus, petalis undatis, caule ſuffruticoſo.* Barrelier calls it, *Leucojum minus, breviori folio, obſoleto flore*; Boccone, *Leucojum minus, lavendulæ folio, obſoleto flore.* It grows common in Spain, Italy, and in ſome parts of France. Triſtis.

CHAP. LXXXIII.

CHELIDONIUM, CELANDINE.

THERE are three ſpecies of this genus which are Annuals, called,

Species.

1. The Yellow Horned Poppy.
2. The Scarlet Horned Poppy.
3. The Violet-coloured Horned Poppy.

Deſcription of Yellow, 1. Yellow Horned Poppy. The ſtalks are round, ſmooth, robuſt, jointed, branching, of a greyiſh-green colour, and grow to about two feet high. The leaves are large, of a thick conſiſtence, and greyiſh-green colour; the radical ones are pinnatifid; the upper ones are lobated, and embrace the ſtalks with their baſe. The flowers are produced from the wings of the leaves on ſhort footſtalks, are of a yellow colour, large, and moſtly reſemble thoſe of the Poppy; they come out in June and July, and are ſucceeded by long, crooked ſeed-veſſels, reſembling horns; which, together with the flowers reſembling thoſe of Poppy, gained this ſpecies the appellation of Horned Poppy. This plant, on being wounded, diſcharges a yellow juice in great plenty.

Scarlet, 2. Scarlet Horned Poppy. There are two principal varieties of this ſpecies; the one ſmooth, the other hairy. They both grow to about a foot and a half high. The leaves are large, finely jagged, ſit cloſe to the ſtalk, and are very beautiful. The flowers are ſcarlet, and, like thoſe of Poppy, of ſhort duration; they come out in June and July, and are ſucceeded by long, hiſpid, horn-like pods, containing the ſeeds. The leaves of the Hairy ſort are narrower than thoſe of the Smooth, and are more finely divided.

and Violet-coloured Horned Poppy. 3. Violet-coloured Horned Poppy. This is a lower ſpecies than either of the former. The ſtalks riſe but to about a foot high, are ſmooth, and divide into two or three branches only. The leaves are compoſed of many narrow parts, are elegantly divided, ſmooth, and of a lucid-green colour. The flowers come out from the wings of the leaves on ſlender footſtalks, are of a fine violet colour, appear in June, and are ſucceeded by long, horn-like pods, containing the ſeeds.

Culture of the firſt ſpecies. The ſeeds of the firſt ſpecies ſhould be ſown ſoon after they are ripe, becauſe if they are kept until the ſpring, they will rarely flower the ſummer following; for this plant is rather Biennial.

Culture of the other ſpecies. The other ſpecies, alſo, ſhould be ſown in the autumn; tho' if they are kept until the ſpring, they will grow, flower, and perfect their ſeeds the ſame year. Autumnal-raiſed plants, however, are always the beſt; they grow the ſtrongeſt, flower earlieſt in the ſummer, and are ſure of affording the greateſt abundance of good ſeeds.

Theſe plants will grow in any ſoil or ſituation, though they are more inclined to reliſh that which is ſandy, light, and dry; and after they have once taken poſſeſſion of a garden, they will ſcatter their ſeeds, and afford plants for a ſucceſſion without further trouble. They are all poſſeſſed of a thick, juicy root, which ſtrikes deep into the ground. This teaches us to let the plants remain unmoleſted from their firſt appearance until they have flowered and perfected their ſeeds; for ſuch Annuals rarely ever do well (if they grow) after being removed.

Titles. Glaucium.

1. Yellow Horned Poppy is titled, *Chelidonium pedunculis unifloris, foliis amplexicaulibus ſinuatis, caule glabro.* In the *Hortus Upſal.* it is termed, *Chelidonium glabrum, pedunculis unifloris*; in the *Hortus Cliffort. Chelidonium pedunculis unifloris.* Caſpar Bauhine calls it, *Papaver corniculatum luteum*; and Cluſius, *Papaver corniculatum, flavo flore.* It grows naturally on the ſea-ſhores, and in ſandy parts in England, Switzerland, Gaul, Italy, and Virginia.

Corniculatum.

2. Scarlet Horned Poppy is titled, *Chelidonium pedunculis unifloris, foliis ſeſſilibus pinnatifidis, caule hiſpido.* In the *Hortus Upſal.* it is termed, *Chelidonium hiſpidum, pedunculis unifloris.* Tournefort calls it, *Glaucium hirſutum, flore Phœniceo*; Cluſius, *Papaver cornutum, Phœniceo flore*; and Caſpar Bauhine, *Papaver corniculatum Phœniceum hirſutum*; alſo, *Papaver corniculatum Phœniceum glabrum.* It grows naturally in Hungary, Bohemia, and the South of France.

Hybridum.

3. Violet-coloured Horned Poppy is titled, *Chelidonium pedunculis unifloris, foliis pinnatifidis linearibus, caule lævi, ſiliquis trivalvibus.* In the *Hortus Upſal.* it is termed, *Papaver caule ramoſo, foliis linearibus pinnatifidis, capſulis ſulcatis.* John and Caſpar Bauhine call it, *Papaver corniculatum violaceum*; and Cluſius, *Papaver corniculatum, violaceo flore.* It grows naturally among the corn in ſome parts of England, and is found in the like ſituation in moſt of the Southern parts of Europe.

CHAP.

CHAP. LXXXIV.

CHENOPODIUM, GOOSE-FOOT, or WILD ORACH.

Species.

OF this genus are,
1. Summer Cypreſs, or Belvedere.
2. Bearded Gooſe-foot.
3. Oak of Jeruſalem.
4. Oak of Cappadocia.
5. Upright Blite.
6. Sharp-leaved Gooſe-foot.
7. Late-flowered Blite.
8. Common Gooſe-foot, or Sow-bane.
9. Common Orach.
10. Green Blite.
11. Maple-leaved Blite.
12. Round-leaved Blite, or All-ſeed.
13. Oak-leaved Blite.
14. Stinking Orach.

Summer Cypreſs deſcribed.

1. Summer Cypreſs, or Belvedere. This is an Annual in great eſteem with many, not on account of its flowers, but from its manner of growth, which is truly pyramidical, and much reſembles that of the Cypreſs-tree. The numerous branches which it cloſely ſends forth to form ſuch a figure, are plentifully adorned with narrow, ſpear-ſhaped, plane, whole leaves, of a light and pleaſant green colour. It is in its greateſt beauty before the flowers come out; for after that, which is in July or Auguſt, the ſeeds ſoon ſwell, and become ſo heavy as to weigh down the branches, and deſtroy the uniformity and beauty of the plant. At this time the plants are generally pulled up, leaving a few only to perfect their ſeeds, to keep up a ſucceſſion.

Method of raiſing it.

The beſt time to ſow theſe ſeeds is the autumn, ſoon after they are ripe; though it may be done with very good ſucceſs in the ſpring. When the plants come up, they may be thinned to proper diſtances, and left to flower; or they may be removed to any place where they are wanted; for this plant bears removing very well, eſpecially if a ball of mould is preſerved to the root. Some are fond of ſetting them in pots, to be placed in halls, chimnies, court-yards, &c. In ſuch ſituations they muſt have plenty of water given them; and when their beauty is paſt, they may be removed to any part of the garden to perfect their ſeeds.

This plant will often ſcatter its ſeeds in the autumn; which growing, become finer plants than thoſe raiſed by art.

Bearded Gooſe-foot deſcribed.

2. Bearded Gooſe-foot is a low, branching plant, hardly a foot high. The leaves are ſucculent, ſpear-ſhaped, fleſhy, and obtuſe. The flowers grow in round, bearded bunches; but, having no petals, make little appearance: They come out about the ſame time with the former ſpecies, and perfect their ſeeds accordingly.

The culture of this and the two following ſpecies is the ſame with the preceding.

Deſcription of Oak of Jeruſalem and Oak of Cappadocia.

3. Oak of Jeruſalem is of little beauty, but is nevertheleſs cultivated in many gardens on account of the fine fragrance it is poſſeſſed of, ſmelling ſomewhat like *Ambroſia.* The ſtalks riſe to about two feet high. The leaves are oblong, ſinuated, of a light-green colour, and grow alternately. The flowers grow in looſe ſpikes from the upper parts of the plant, come out in July, and the ſeeds ripen in September.

4. Oak of Cappadocia. This is another ſpecies of an agreeable odour, like the former. The ſtalks hardly riſe to a foot high. The leaves are ſpear-ſhaped, oblong, indented or hollowed on both ſides in the manner of Oak leaves, and purple on their under-ſide. The flowers are produced from the upper parts of the plant in looſe, naked ſpikes: they come out in July, and the ſeeds ripen in September.

Remarks.

Theſe four ſpecies are cultivated among other Annuals for the Flower-garden. The nine following ſpecies grow naturally in many parts of England, are ſometimes deemed weeds, and as often extirpated from the garden as careſſed in it; eſpecially the laſt ſpecies, there being hardly an old, rotten dunghill in the kingdom that has not plenty of it. However, a ſhort deſcription of the reſpective ſpecies ſhall be given, for the ſatisfaction of thoſe who are inclined to have a plant or two of each ſort, as well as for the inſtruction of thoſe who are deſirous of making their obſervations on them as they grow naturally in the fields.

Upright Blite deſcribed.

5. Upright Blite. This ſpecies grows naturally by way-ſides. The ſtalks are upright, and branching. The leaves are triangular, and a little indented. The flowers come out from the wings of the leaves in long-cluſtered ſpikes, but being poſſeſſed of no petals, make little appearance; they ſhew themſelves in July, and the ſeeds ripen in Auguſt.

Sharp-leaved Gooſe-foot deſcribed.

6. Sharp-leaved Gooſe-foot riſes with an upright, branching ſtalk, to about a foot and a half high. The leaves are bright, of a thick ſubſtance, nearly triangular, with their edges cut into many ſegments, and the lower ones having ſtrong footſtalks. The flowers are produced in ſpikes from the ſides of the branches, and they come out in ſucceſſion moſt part of the ſummer, though their general appearance is in July and Auguſt. The ſeeds ripen ſoon after the flowers are fallen.

Late-flowered Blite deſcribed.

7. Late-flowered Blite. The ſtalk is ſtrong, upright, and branching. The leaves are large, angular, hollowed on their edges, and much reſemble thoſe of the Fig-tree. The flowers are produced from the ends of the branches in long ſpikes; they come out late in the ſummer, and the ſeeds ripen ſoon after.

Common Gooſe-foot deſcribed.

8. Common Gooſe-foot, or Sow-bane. This ſpecies riſes with an upright, ſtrong, ſtriated, branching ſtalk, to about a foot and a half high. The leaves are broad, and ſhaped like the foot of a gooſe. The flowers grow in long, branching ſpikes, from the ends and ſides of the branches; they are of a reddiſh colour, come out in June, and continue in ſucceſſion to the end of ſummer.

Common Orach deſcribed.

9. Common Orach riſes with an upright, branching ſtalk, to about two feet high. The

leaves are large, oblong, angular, bright, unequally ſinuated on their borders, and ſhaped like thoſe of the Gelder Roſe. The flowers are produced in long ſpikes from the ends and ſides of the branches; they make their appearance in May or June, and continue in ſucceſſion all ſummer.

Variety. There is a variety of this ſpecies with roundiſh leaves.

Deſcription of Green, 10. Green Blite. The leaves are nearly of the figure of a *Rhombos*, having their edges indented and unequally ſinuated; though there is a ſort of it with oblong, thick, obtuſe, entire leaves. The flowers are produced from the ends of the branches, in branching, naked ſpikes; they come out in June, and may be found in one plant or other until the end of ſummer.

Maple-leaved, 11. Maple-leaved Blite. This is a ſtrong, branching plant, about two feet high. The leaves are large, cordated, angular, and have their edges cut and ſinuated like the Common Maple. The flowers grow in long, naked, branching ſpikes, from the tops of the plants; they come out about the time of the former, and continue in one plant or other as long in blow.

Round-leaved, 12. Round-leaved Blite, or All-feed. The ſtalk is weak, and decumbent. The leaves are oval, and undivided. The flowers grow in ſuch plenty from the tops of the ſtalks, that when the ſeeds begin to ſwell, the plant is loaded with them. The flowers come out in moſt of the ſummer months, and are regularly ſucceeded by ſeeds in the amazing plenty above mentioned.

and Oak-leaved Blite. 13. Oak-leaved Blite. The leaves are oval, oblong, downy underneath, and ſinuated on their edges, in the manner of thoſe of the Oak-tree. The flowers are produced from the wings of the leaves in ſingle ſpikes, come out about the time of the former, and the ſeeds ripen accordingly.

Stinking Orach deſcribed. 14. Stinking Orach. The ſtalks are low, weak, and branching; the leaves are angular, oval, and undivided; the flowers and ſeeds are produced from the ends and ſides of the branches; and the whole plant is of ſo diſagreeable a ſmell, and grows ſo common upon rotten dunghills, among rubbiſh, old walls, &c. that it ſhould have never been mentioned in this place, but to complete the number of the Annuals of this genus, and to acquaint the Gardener, that this mean, ſtinking ſpecies is of the ſame fraternity with the Belvedere he ſo much careſſes, and the Oaks of Jeruſalem and Cappadocia, with whoſe ſmell he has been ſo often regaled.

Culture of the laſt nine ſpecies. Sow the ſeeds of any of theſe ſpecies in the autumn or ſpring, and they will readily come up, and afford you more plants than you would chuſe to continue. Soon after they have made their appearance, they are eaſily mowed down, leaving a plant or two of each ſort only for obſervation. If the ſeeds of theſe are permitted to ſcatter, they will afford abundance of plants for the next year; which ſhould be hoed down, or thinned to a certain number as before.

Titles. Scopa= =rium. 1. Summer Cypreſs, or Belvedere, is titled, *Chenopodium foliis lineari-lanceolatis planis integerrimis.* Caſpar Bauhine calls it, *Linaria ſcoparia*; and Dodonæus, *Oſyris.* It grows naturally in Greece, China, and Japan.

Arista= =tum. 2. Bearded Gooſe-foot is, *Chenopodium foliis lanceolatis ſubcarnoſis integerrimis, corymbis dichotomis, ariſtatis axillaribus.* To this is brought the *Chenopodium Virginicum, foliis linearibus obtuſis ſubcanaliculatis, pedunculis axillaribus dichotomis muticis.* It grows naturally in Siberia and Virginia.

Botrys. 3. Oak of Jeruſalem is titled, *Chenopodium foliis oblongis ſinuatis, racemis nudis multifidis.* Caſpar Bauhine calls it, *Botrys ambroſioides vulgaris*; and Dodonæus, *Botrys.* It grows naturally in ſandy ſoils in many of the ſouthern parts of Europe.

4. Oak of Cappadocia is, *Chenopodium foliis lanceolatis dentatis, racemis* foliatis *ſimplicibus.* Caſpar Bauhine calls it, *Botrys ambroſioides Mexicana*; and Moriſon, *Botrys odorato-ſuave olens Americana Mexicanave.* It grows naturally in Mexico and Luſitania. Ambro= =sioides.

5. Upright Blite is titled, *Chenopodium foliis triangularibus ſubdentatis, racemis confertis ſtrictiſſimis cauli approximatis longiſſimis.* Buxbaum calls it, *Chenopodium latifolium minus ramoſum, petiolis longiſſimis ex foliorum alis confertim naſcentibus.* It grows naturally about towns in moſt of the northern parts of Europe. Urbi= =cum.

6 Sharp-leaved Gooſefoot is, *Chenopodium foliis cordato-triangularibus obtuſiuſculis dentatis, racemis erectis compoſitis folioſis caule brevioribus.* In the *Hortus Cliffort.* it is termed, *Chenopodium erectum, foliis ſubtriangularibus antice ſinuato dentatis, racemis erectis folioſis lateralibus.* Caſpar Bauhine calls it, *Atriplex ſylveſtris latifolia*; and Dalechamp, *Pes anſerinus.* It grows naturally by way-ſides in moſt parts of Europe. Rubrum.

7. Late-flowered Blite is, *Chenopodium foliis deltoideis ſinuato-dentatis rugoſis glabris uniformibus racemis terminalibus.* Tournefort calls it, *Chenopodium Hiſpanicum procerius, folio deltoide*; and Ray, *Blitum, ficûs folio.* It grows naturally in England, Gaul, and Spain. Seroti= =num.

8. Common Gooſe-foot, or Sow-bane, is titled, *Chenopodium foliis ovatis nitidis acutis dentatis, racemis ramoſis nudis.* In the *Hortus Cliffort.* it is termed, *Chenopodium erectum ramoſiſſimum, foliis triangularibus dentatis, racemis ramoſis caulem ſuperantibus.* Caſpar Bauhine calls it, *Atriplex ſylveſtris latifolia, acutiore folio*; and John Bauhine, *Atriplex dicta pes anſerinus.* It grows naturally on heaps of rubbiſh, banks, old walls, &c. in moſt parts of Europe. Murale

9. Common Orach is, *Chenopodium foliis rhomboideo-triangularibus eroſis poſtice integris, ſummis oblongis, racemis erectis.* In *Vir. Cliffort.* it is termed, *Chenopodium foliis inferioribus ovatis acutis antrorſum dentatis, ſummis lanceolatis.* Fuchſius calls it, *Atriplex ſylveſtris*; and Caſpar Bauhine, *Atriplex ſylveſtris, folio ſinuato candicante.* It grows naturally in moſt parts of Europe. Album.

10. Green Blite is, *Chenopodium foliis rhomboideis dentato-ſinuatis, racemis ramoſis ſubfoliatis.* Vaillant calls it, *Chenopodium ſylveſtre, opuli folio*; Dillenius, *Chenopodium folio oblongo integro*; and John Bauhine, *Atriplex ſylveſtris.* It grows naturally in moſt countries of Europe. Viride.

11. Maple-leaved Blite is, *Chenopodium foliis cordatis angulato-acuminatis, racemis ramoſis nudis.* In the *Hortus Cliffort.* it is termed, *Chenopodium foliis triangulari-ſagittatis, infra medium ſinuato-dentatis, racemis longiſſimis.* Vaillant calls it, *Chenopodium ſtramonii folio*; and Ray, *Chenopodium affinis, folio lato laciniato in longiſſimum mucronem procurrente.* It grows naturally in cultivated places in moſt parts of Europe. Hybri= =dum.

12. Round-leaved Blite, or All-feed, is titled, *Chenopodium foliis integerrimis ovatis, caule decumbente, cymis dichotomis aphyllis axillaribus.* In the *Vir. Cliffort.* it is termed, *Chenopodium foliis ovatis integerrimis, caule decumbente*; in the *Hortus Cliffort. Blitum foliis ovatis.* Caſpar Bauhine calls it, *Blitum polyſpermum*; and Lobel, *Polyſporon caſſiani, baſſii, anguillare.* It is a native of moſt countries in Europe. Poly= =spermum.

13. Oak-leaved Blite is titled, *Chenopodium foliis ovato-oblongis repandis racemis nudis ſimplicibus glomeratis.* In the *Vir. Cliffort.* it is termed, *Chenopodium foliis ovato oblongis repande ſinuatis, florum racemis glomeratis ex alis ſolitariis.* Tournefort Glau= =cum.

fort calls it, *Chenopodium anguſtifolium laciniatum minus*; John Bauhine, *Atriplex anguſtifolia laciniata*; and Tabernæmontanus, *Atriplex ſylveſtris ſecunda.* It grows naturally by the ſides of dunghills and heaps of rubbiſh in moſt parts of Europe.

Vulvaria. 14. Stinking Orach is, *Chenopodium foliis integerrimis rhombeo-ovatis, floribus conglomeratis axillaribus.* In the *Hortus Cliffort.* it is termed, *Chenopodium foliis triangulari-ovatis.* Caſpar Bauhine calls it, *Atriplex fœtida*; and Dalechamp, *Vulvaria.* It grows naturally in bark-yards, dunghills, &c. in moſt parts of Europe.

CHAP. LXXXV.

CHIRONIA.

THERE is one beautiful Annual of this genus, called Trinervous *Chironia.*

The plant deſcribed. The ſtalk is herbaceous, branching, and two or three feet high. The leaves are ſpear-ſhaped, trinervous, pointed, and ſinuated on their borders. The flowers are produced from the tops of the ſtalks, are large, of a fine blue colour, appear in July and Auguſt, and the ſeeds ripen in the autumn.

Culture. This ſpecies is raiſed by ſowing the ſeeds on a hot-bed early in the ſpring. When the plants come up, they muſt be frequently refreſhed with water, but muſt have it in ſmall quantities, or it will otherwiſe deſtroy them. They muſt have as much air as the weather will permit, to prevent their drawing weak; and when they are fit to remove, they muſt be ſet ſeparately in pots, which muſt be then plunged into a hot-bed to forward their growth. In this ſituation they muſt be watered, and kept ſhaded, until they have taken root, and afterwards muſt be hardened by degrees to the open air. When this is effected, they may be ſet, in the common ground, in ſome warm, well-ſheltered places, obſerving to diſturb the mould about the roots as little as poſſible. Here they will flower, and in warm ſeaſons perfect their ſeeds.

Titles. This ſpecies is titled, *Chironia herbacea, calycinis foliolis membranaceo-carinatis.* In the *Hortus Cliffort.* it is termed, *Chironia foliis lanceolatis trinerviis.* Burman calls it, *Lyſimachia folio ſinuato acuminato trinervo, flore cæruleo amplo, calyce carinato alato.* It grows naturally at the Cape of Good Hope. Trinervia.

Claſs and order in the Linnæan ſyſtem. *Chironia* is of the claſs and order *Pentandria Monogynia*; and the characters are,

The characters. 1. Calyx is a monophyllous, permanent perianthium, divided into five oblong, acute, erect parts.

2. Corolla is one equal petal. The tube is the length of the calyx. The limb is divided into five oval, equal, ſpreading ſegments.

3. Stamina are five ſhort, broad filaments, growing to the top of the tube, having large, oblong, erect, connivent, and ſpirally-twiſted antheræ.

4. Pistillum conſiſts of an oval germen, a filiforme, declining ſtyle ſomewhat longer than the ſtamina, and a capitated, riſing ſtigma.

5. Pericarpium is oval, and contains two cells.

6. Semina. The ſeeds are numerous and ſmall.

It is obſervable, that in ſome ſpecies of this genus the pericarpium is a capſule, in others a berry.

CHAP. LXXXVI.

CHRYSANTHEMUM, CORN MARIGOLD.

Species.

OF this genus are,

1. Cretan Corn Marigold, commonly called *Chryſanthemum.*
2. Common Corn Marigold.
3. Scentleſs Corn Marigold.
4. Indian Corn Marigold.
5. American Corn Marigold.
6. Yellow Daiſy, or Broad-leaved *Chryſanthemum.*

Cretan Corn Marigold deſcribed.

1. Cretan Corn Marigold. This ſpecies, in all its varieties, is uſually known by the name of *Chryſanthemum*; which varieties are the White, the Yellow, and the Cream-coloured. In its Single-ſtate it is of little value: But in its Double ſtate it is highly prized; for theſe flowers, when full, are as completely Double flowers as any we have, the *Ranunculus* not excepted; but, like that, the petals are by many thought to be too regularly and formally placed, and therefore the flower is objected to by thoſe who prefer an *Anemone*, in its free attire, to the formal habit of a *Ranunculus*, glowing in all its full pride of colours. Beſides the above varieties, there are others with fiſtular florets, which are by ſome people more eſteemed than the others, and are generally termed Gilded *Chryſanthemums.*

Method of propagation.

In order to have theſe flowers in their full perfection, the ſeeds muſt be carefully gathered from the trueſt and full Double ſorts, both of the Gilded and the other kinds, in all their colours. Then, in the ſpring, let a moderate hot-bed be in readineſs, covered with five inches depth of good, rich garden-mould, for their recepton. In this ſow your ſeeds thinly in drills, covering them over hardly a quarter of an inch deep. When the plants come up, draw out the weakeſt, and give the others as much air at all times as the weather will permit, and afford them water as often as there ſhall be occaſion. With this management let them ſtand until the middle of May; for there is no neceſſity of removing them into other hot-beds, as is too frequently adviſed; and about that time, or rather on the firſt moiſt day which happens in that month, let them be planted out. In doing of this, let the ground be made exceeding fine, and let two holes be made together, and two others at about a foot and a half diſtance from the firſt couple; and thus let the holes be in readineſs all over the ground, at an interval of about a foot and a half, or two feet, between each couple of holes, according as you find the ſtrength of the ground will allow it. Then take your plants out of the ſeed-bed, preſerving a ball of earth to each root, and plant them carefully in theſe holes. If the weather is moiſt, they will immediately take to the ground; if not, they muſt be watered, which muſt be duly repeated until they have taken root. When they begin to ſhew their flowers, every other plant, or thoſe that are ſingle, or the leaſt double, may be taken away; and there will then be a ſufficient quantity of the fineſt plants left to exhibit their bloom, which will be from June until the froſt ſtops them in the winter.

I would have a large ſpot planted together, that the ſhow may be more grand; and I adviſe to have them not planted by lines, which would have too formal a look.

When the worſt plants are taken up, if the earth be preſerved to the roots, they will grow, if removed to the worſt part of the garden, or given away; and though the flowers appear ſemi-double, or even ſingle, at the firſt coming out, yet the ſucceeding ones on the ſame plant will be more double; and thus they will continue to improve until the laſt.

Some adviſe the planting of the beſt of theſe plants in pots, to adorn court-yards, rooms, &c. but they are very ill qualified to make ſuch places agreeable, being poſſeſſed of a very ſtrong, diſagreeable odour, which is the worſt property belonging to them, and which is a good cauſe why they ſhould not be planted too near the parlour, but at a diſtance, to make a general ſhow in the largeſt gardens.

The cuttings of theſe plants, taken the beginning of September, and planted in pots, will grow; and by preſerving them all winter under a hot-bed frame, or in the green-houſe, and ſetting them out in the ſpring with the mould at the roots, they will flower early the ſummer following.

This method is generally practiſed in order to preſerve the true Double and moſt beautiful kinds: But it is hardly worth following; for plants raiſed this way are never ſo pictureſque or beautiful as thoſe raiſed from ſeeds, and they ſoon become barren; neither need you be at all fearful, if you are careful in gathering the ſeeds, but you will have Double ones enough.

If the plants are raiſed in July on a ſhady border, they may be potted in the autumn, and preſerved through the winter in the green-houſe; and if they are ſet out in May, with the mould at the roots, they will flower earlier than thoſe raiſed any other way.

Scattered ſeeds, alſo, accidentally falling on the common ground, will grow, and ſometimes produce better and more complete plants than thoſe raiſed by the niceſt art.

Deſcription of Common and Scentleſs Corn Marigold.

2. Common Corn Marigold. This ſpecies is not without its beauties, for the colours are lively and good; but it is a very ſtinking plant, grows common in almoſt all corn-fields in England, and is never propagated in gardens.

3. Scentleſs Corn Marigold, being of foreign growth, is admitted into the liſt of Annuals. The ſtalks are branching, diffuſe, and grow to about a foot and a half high. The leaves are pinnated, cut, divided into many ſegments, and are of an obſcure-green colour. The flowers grow from the ends and ſides of the branches on longiſh footſtalks, are moderately large, and the rays ſpread themſelves in a beautiful manner; they come out in July and Auguſt, and the ſeeds ripen in Auguſt and September. This ſpecies, being diſpoſſeſſed of the diſagreeable ſmell of the former ſorts, is by ſome eſteemed on that account.

4. Indian

Indian Corn Marigold deſcribed.

4. Indian Corn Marigold. The ſtalks are upright, branching, and grow to about two feet high. The leaves are ſimple, oval, ſinuated, angular, and very ſharply ſerrated. The flowers are large, and conſiſt of ſeveral varieties, ſome of which are very double and beautiful; they come out in July, and continue in ſucceſſion until the froſt ſtops them.

Culture.

This ſpecies is raiſed like the firſt; and to continue the ſorts in perfection, great care muſt be taken to collect the ſeeds only from the doubleſt and fineſt flowers.

Deſcription of American Corn Marigold.

5. American Corn Marigold. The ſtalks are weak, herbaceous, branching, and diffuſe. The leaves are cuneiforme, ſmooth, fleſhy, three-lobed, multifid, obtuſe, and placed on longiſh footſtalks on the branches. The flowers grow ſingly from the tops of the branches on hairy footſtalks, are about the ſize of Common *Chryſanthemum*, and very beautiful; they make their appearance in July, and the ſeeds ripen in September.

Yellow Daiſy deſcribed.

6. Yellow Daiſy, or Broad-leaved *Chryſanthemum*. The ſtalks are upright, branching, and grow to about a foot and a half high. The leaves are broad, roundiſh, ſerrated, and obtuſe. The flowers grow from the tops of the branches on thickiſh footſtalks; they are of a yellow colour; but the rays, being very ſhort, make but an indifferent appearance.

Culture of the laſt two and the third ſpecies.

The laſt two and the third ſpecies may be raiſed by ſowing the ſeeds on a warm border of good, light mould, in the ſpring; but in order to have them flower earlier, and perfect their ſeeds with more certainty, the beſt way will be to give them the aſſiſtance of a moderate hot-bed, and manage them like the *Chryſanthemums*.

After all, the beſt plants ſometimes riſe from caſual ſeeds, which have accidentally fallen from the plants before they were gathered.

Titles.

Coronarius

1. Cretan Corn Marigold is titled, *Chryſanthemum foliis pinnatifidis inciſis extrorſum latioribus.* Cluſius calls it, *Chryſanthemum Creticum*; and Caſpar Bauhine, *Chryſanthemum foliis matricariæ*; alſo, *Chryſanthemum majus, folio profundius laciniato, magno flore.* It grows naturally in Crete and Sicily.

Segetum

2. Common Corn Marigold is, *Chryſanthemum foliis amplexicaulibus, supernè laciniatis, infernè dentato ſerratis.* Cluſius calls it, *Chryſanthemum ſegetum*; Moriſon, *Chryſanthemum ſegetum vulgare glaucum*; and Caſpar Bauhine, *Bellis lutea, foliis profundè inciſis, major.* It grows naturally in England, Sweden, Germany, &c.

Inodorum.

3. Scentleſs Corn Marigold is, *Chryſanthemum foliis pinnatis multifidis, caule ramoſo diffuſo.* In the *Flora Suecia* it is termed, *Matricaria inodora, receptaculis hemiſphæricis, radiis patentibus ſeminibus coronato marginatis, ſquamis calycinis margine obſoletis.* Moriſon calls it, *Chamæmelum inodorum annuum humilius, foliis obſcurè virentibus*; and Caſpar Bauhine, *Chamomelum inodorum, ſ. cortula non fœtida.* It is a native of Sweden and ſeveral parts of Europe.

Indicum.

4. Indian Corn Marigold is, *Chryſanthemum foliis ſimplicibus ovatis ſinuatis angulatis ſerratis acutis.* Rhumphius calls it, *Matricaria Sinenſis*; Plukenet, *Matricaria Sinenſis, minore flore, petalis & umbone ochroleucis*; alſo, *Chryſanthemum maderaſpatanum, oxyacanthæ foliis cæſiis ad marginem ſpinoſis, calyce argenteo.* Moriſon terms it, *Matricaria Indica, latiore folio, flore pleno*; Vaillant, *Matricaria Sinenſis, flore monſtroſo*; and Ray, *Matricaria Zeylanica hortenſis, flore pleno.* It grows naturally in India.

Arcticum.

5. American Corn Marigold is, *Chryſanthemum foliis ſimplicibus cuneiformibus ſubpalmatis multifidis obtuſis.* Gmelin calls it, *Pyrethrum foliis longè petiolatis palmatis ſuprà dilatatis, ultimis laciniis trilobis.* It grows naturally in North America.

Myconis.

6. Yellow Daiſy is. *Chryſanthemum foliis lingulatis obtuſis ſerratis, calycum ſquamis æqualibus.* Dalechamp calls it, *Chryſanthemum myconis*; John Bauhine, *Chryſanthemum latifolium*; and Caſpar Bauhine, *Bellis lutea, foliis ſubrotundis.* It grows naturally in the fields of Italy, Portugal, and Spain.

* * *

CHAP. LXXXVII.

CICER, CHICHES, or CHICH-PEASE.

THERE is only one ſpecies of this genus, called Chich-peaſe.

The plant deſcribed.

The ſtalks are weak, hairy, branching, and grow to about two feet long. The leaves are pinnated, each being compoſed of about ſeven or nine pair of roundiſh, greyiſh, ſerrated folioles, which are terminated by an odd one. The flowers are ſmall, white, ſhaped like thoſe of the Common Peaſe, and come out from the ſides of the branches, like them, one or two together, on long footſtalks; they appear ſooner or later in the ſummer, according as they have been raiſed in the ſpring; and are ſucceeded by peaſe, like the common ſort, but having a protuberance on each ſide.

Uſes of it.

This plant is much propagated in Spain, Italy, and France, to compoſe an ingredient in their rich broths and ſoups; and in England it is ſometimes cultivated for the ſame purpoſes.

Culture.

It is raiſed by ſowing the ſeeds in drills, like Peaſe, at about two feet aſunder. When the plants come up, the mould muſt be drawed up to the ſtems with the hoe, and the ground muſt be conſtantly kept clean from weeds; and this is all the trouble they will require, until they are ripe enough for uſe. A ſpot ſhould always be preſerved untouched for ſeeds, while the others may be gathered as they are wanted.

If this ſpecies is to be raiſed as an Annual only in the flower-garden, a few ſeeds may be ſown in different parts, covering them over about half an inch deep. They will then grow, and have a pretty effect among other Annuals, tho' the flowers are rather ſmall, and of little ſhow.

Variety.

There is a variety of this ſpecies with red ſeeds, but the flowers and leaves are of no difference.

Titles.

Arietinum

There being formerly ſuppoſed other ſpecies to belong to this genus, Chich-peaſe was diſtinguiſhed by the title, *Cicer foliolis ſerratis*; and with that title it now ſtands in the laſt edition of the *Species Plantarum*, though there are no other ſpecies known to be of it. Caſpar Bauhine calls it, *Ciſer ſativum*; and Dodonæus, *Ciſer arietinum.* It grows naturally in the corn-fields of Spain, Italy, and the Eaſt.

Claſs and order in the Linnæan ſyſtem. The characters.

Cicer is of the claſs and order *Diadelphia Decandria*; and the characters are,

1. Calyx is a perianthium nearly the length of the corolla, and divided into five parts, four of which lie on the vexillum; the other is under the carina.

2. Corolla is papilionaceous.

The vexillum is large, roundiſh, plane, and inflexed.

The alæ are obtuſe, and much ſhorter than the vexillum.

The carina is ſhorter than the alæ, and ſharp-pointed.

3. Stamina are diadelphous, aſſurgent filaments, having ſimple antheræ. Nine of theſe join in a body; the other ſtands ſingle.

4. Pistillum conſiſts of an oval germen, a ſimple, aſſurgent ſtyle, and an obtuſe ſtigma.

5. Pericarpium is a rhomboidal, turgid, inflated pod.

6. Semina. The ſeeds are two, roundiſh, and gibbous on the ſide.

CHAP. LXXXVIII.

CICHORIUM, SUCCORY, or ENDIVE.

THE Common Succory has been already mentioned as a Perennial. The Endive of our kitchen-gardens is the ſecond ſpecies of this genus; and the third and laſt ſpecies, which is a Biennial, is termed The Prickly Succory.

The plant deſcribed.

The ſtalk is prickly and forked. The radical leaves are long, indented, and ſpread on the ground; but thoſe on the ſtalks are ſmall, and entire. The flowers come out from the wings of the ſtalks, ſitting cloſe without any footſtalks; they are of a pale but elegant blue colour, will be in blow in July, and ripen their ſeeds in September.

Method of propagation.

It is propagated by ſowing the ſeeds in May; and when the plants are about four inches high, they ſhould be ſet out in a bed at about a foot and a half aſunder. The ſituation ought to be well ſheltered; for they are very liable to be deſtroyed by our hard froſts, and even too much wet is often hurtful to them. They are, however, tolerably hardy; and if the winter is but in any degree moderate, they will be pretty ſure of ſurviving it, and flowering ſtrong the ſummer following.

Titles.

Spinosum.

This ſpecies is titled, *Cichorium caule dichotomo ſpinoſo, floribus axillaribus ſeſſilibus.* Caſpar Bauhine calls it, *Cichorium ſpinoſum*; and Cluſius, *Chondrillæ genus elegans, cæruleo flore.* It grows naturally on the ſea-coaſts in Sicily and Crete.

CHAP.

CHAP. LXXXIX.

CISTUS, ROCK ROSE.

Species.

THE Annuals of this genus are;

1. Engliſh Annual *Ciſtus.*
2. *Ledon*-leaved Dwarf *Ciſtus.*
3. Willow-leaved Dwarf *Ciſtus.*
4. Ægyptian Dwarf *Ciſtus.*

Deſcription of Engliſh Annual Ciſtus,

1. Engliſh Annual *Ciſtus.* This riſes with an upright, rough, herbaceous, hairy, greeniſh ſtalk, to the height of about a foot. The leaves are ſpear-ſhaped, trinervous, very hairy, rough, and grow oppoſite to each other. The flowers come out from the ends of the branches; their colour is yellow, ſpotted with deep-red or purple; they appear early in the morning, and in a warm day are totally vaniſhed before noon, but there will be a ſucceſſion the next day; they flower in July and Auguſt, and the ſeeds ripen ſoon after.

and Ledon-leaved,

2. *Ledon*-leaved Dwarf *Ciſtus.* The ſtalk is herbaceous, erect, ſmooth, and riſes to about a foot high. The leaves are oblong, ſpear-ſhaped, and of a bluiſh-green colour on the outſide, but hoary underneath. The flowers grow ſingly from the upper-parts of the plant on very ſhort foot-ſtalks; they fall off early in the day, but there will be a ſucceſſion of them the next morning. They may be made to flower earlier or later in the ſummer, as you ſow the ſeeds in the ſpring, though in the ordinary courſe they will come in July or Auguſt, and the ſeeds ripen in September.

Willow-leaved,

3. Willow-leaved Dwarf *Ciſtus.* The ſtalks are herbaceous, hairy, in one variety are upright, and in another ſort procumbent. The leaves are oval, hairy, and downy underneath. The flowers come out in looſe ſpikes from the ends of the branches; they are of a pale-yellow colour, and the petals fall off ſoon after they make their appearance. It flowers and ſeeds about the ſame time with the former.

and Ægyptian Dwarf Ciſtus.

4. Ægyptian Dwarf *Ciſtus.* The ſtalks are herbaceous and erect. The leaves are ſpear-ſhaped, narrow, and on the lower-parts of the plant come out ſeveral together, but on the upper-part they grow oppoſite to each other. The flowers terminate the ſtalks in looſe ſpikes; they are ſmall, and have very large inflated cups; they come out, and the ſeeds ripen, about the ſame time with the former.

Culture.

Theſe plants are all propagated by ſowing the ſeeds the beginning of April, in beds of common mould; they will readily come up, and after that they require no trouble, except thinning them to proper diſtances, keeping them clean from weeds, and watering them, if the ſeaſon by long drought ſhould make it neceſſary; they will flower in July and Auguſt, and the ſeeds ripen in September.

The ſeeds may alſo be ſown in the autumn, ſoon after they are ripe, and the plants will flower ſooner by ſome weeks than thoſe raiſed by ſeeds ſown in the ſpring.

Theſe kinds will often ſcatter their ſeeds, which will grow, and produce plants for a ſucceſſion without any trouble.

Titles.

1. Engliſh Annual *Ciſtus* is titled, *Ciſtus herbaceus extipulatus, foliis oppoſitis lanceolatis trinerviis racemis ebracteatis.* Sauvages calls it, *Ciſtus annuus, foliis radicalibus oppoſitis lanceolatis trinerviis, ramiferis ternatis linearibus*; Guettard, *Ciſtus foliis oblongo-acuminatis non ſtipulatis, caule florali racemoſo*; Caſpar Bauhine, *Ciſtus flore pallido, punicante maculâ, inſignito*; Columna, *Helianthemum flore mâculoſo*; Gerard, *Ciſtus annuus flore maculato*; and Parkinſon, *Ciſtus annuus flore guttato.* It grows naturally in England, Italy, and the South of France.

Guttatus.

2. *Ledon*-leaved Dwarf *Ciſtus* is, *Ciſtus herbaceus erectus glaber ſtipulatus, floribus ſolitariis ſubſeſſilibus, folio ternato oppoſitis.* In the *Hortus Cliffort.* it is termed, *Ciſtus ſtipulis quaternis, foliis oblongis, caule erecto.* Caſpar Bauhine calls it, *Ciſtus ledi folio*; and Lobel, *Ciſtus annuus, foliis ledi.* It grows naturally near Montpelier.

Ledifolius.

3. Willow-leaved Dwarf *Ciſtus* is, *Ciſtus herbaceus patulus villoſus ſtipulatus, floribus racemoſis erectis: pedicillis horizontalibus.* In the *Hortus Cliffort.* it is termed, *Ciſtus ſtipulis quaternis, foliis ſubovatis ſubtus tomentoſis, caule procumbente.* Caſpar Bauhine calls it, *Ciſtus folio ſalicis*; Cluſius, *Ciſtus annuus* 1; and Seguier, *Helianthemum annuum humile, foliis ovatis, flore fugaci.* It grows naturally in Spain and Portugal.

Salicifolius.

4. Ægyptian Dwarf *Ciſtus* is, *Ciſtus herbaceus erectus ſtipulatus, foliis lineari-lanceolatis petiolatis, calycibus inflatis corollâ majoribus.* It grows naturally in Ægypt.

Ægyptiacus.

CHAP. XC.

CLEOME.

THE Annuals of this genus are,

Species.

1. Seven-leaved *Cleome*, or Ægyptian Baſtard Muſtard.
2. Five-leaved Red-flowered *Cleome*, or Smaller Indian Baſtard Muſtard.
3. Three-leaved *Cleome*.
4. Icoſandrous *Cleome*.
5. Viſcous *Cleome*, or Baſtard Muſtard of Ceylon.
6. Dodecandrous *Cleome*, or Dwarf Three-leaved Baſtard Muſtard.
7. Polygamous *Cleome*, or Jamaican Baſtard Muſtard.
8. Prickly Indian *Cleome*.
9. Serrated *Cleome*.
10. Monophyllous Indian *Cleome*, or Viſcous Baſtard Muſtard of Ceylon.
11. Violet Portugal *Cleome*.
12. Bird's-Foot Trefoil Podded *Cleome*, or Oriental Baſtard Muſtard.

Deſcription of the Seven-leaved Baſtard,

1. Seven-leaved Baſtard *Cleome*, or Ægyptian Baſtard Muſtard. This plant riſes with a thick, herbaceous, prickly, branching ſtalk, to the height of about two feet. The leaves grow on long, ſlender footſtalks, and each is compoſed of ſeven long, ſpear-ſhaped folioles, which join at the baſe. The ſpines are ſituated below the footſtalks of the leaves; they are very ſharp, ſhort, thick, and of a yellow colour. The flowers are produced ſingly from the upper ends of the branches on longiſh footſtalks; they are large, of a fine fleſh-colour, and garniſh the ſtalks a great way down, ſo as to form a long, looſe ſpike; they are very beautiful, and by great care may be brought to flower early in Auguſt, and perfect their ſeeds in the autumn.

and Five-leaved Red-flowered Cleome.

2. Five-leaved Red-flowered *Cleome*, or Smaller Indian Baſtard Muſtard. The ſtalk is herbaceous, unarmed with ſpines, tender, and hardly ever riſes to a foot in height. The leaves are digitated, each being compoſed of five ſmall, ſmooth folioles, which join at the baſe, and ſpread themſelves like the fingers of the hand. The flowers come out in looſe ſpikes from the ends of the ſtalks; their colour is red or fleſh-colour; they come out in July and Auguſt, and the ſeeds ripen in September.

Variety.

There is a variety of this ſpecies with white flowers.

Three-leaved,

3. Three-leaved *Cleome*. The ſtalk is herbaceous, unarmed with ſpines, and grows to about a foot and a half high. The leaves are each compoſed of three folioles only, which join at the baſe, and at the bottom of the plant have long footſtalks, which diminiſh in length the nearer they approach the top. The flowers adorn the tops of the ſtalks in looſe ſpikes; they are of a fine fleſh-colour; they come out in July and Auguſt, and perfect their ſeeds in September.

Icoſandrous,

4. Icoſandrous *Cleome*. The ſtalks are herbaceous, round, and grow to about two feet high. The leaves are clammy, and each is compoſed of five folioles, growing together on one common footſtalk. The flowers are icoſandrous, and grow in looſe ſpikes on the upper-parts of the ſtalk; their petals are of a fine yellow colour, and they come out and ripen their ſeeds about the ſame time with the former.

Viſcous,

5. Viſcous *Cleome*, or Baſtard Muſtard of Ceylon. The ſtalk of this plant is tender, clammy, branching, and grows to about a foot and a half high. The leaves grow on ſhort, hairy footſtalks; ſome of them are compoſed of five folioles, others of three only, and all of them exude a viſcous matter. The flowers come out ſingly from the footſtalks of the leaves; their colour is a pale-yellow, and their appearance is about the ſame time with the former.

and Dodecandrous Cleome deſcribed.

6. Dodecandrous *Cleome*, or Dwarf Three leaved Baſtard Muſtard. The ſtalks are tender, herbaceous, ſmooth, and grow to about nine inches high. The leaves are each compoſed of three ſmall folioles, which on the bottom of the plant have longiſh footſtalks, but diminiſh in length in proportion as they advance near the top. The flowers are dodecandrous, and come out ſingly from the upper-parts of the plant; their colour is purple, and they are ſucceeded by membranaceous pods, containing the ſeeds.

Variety.

There is a variety of this ſpecies with fleſh-coloured flowers.

Polygamous,

7. Polygamous *Cleome*, or Jamaican Baſtard Muſtard. The ſtalk of this plant is erect, ſmooth, and divides into a few branches. The leaves are each compoſed of three oval, ſpear-ſhaped folioles, which join together at the baſe, and have a long footſtalk. The flowers come out from the wings of the leaves on the upper-parts of the branches, forming long, looſe ſpikes; they are of a fleſh-red colour, and appear about the ſame time with the former.

Prickly Indian,

8. Prickly Indian *Cleome*. The ſtalk is herbaceous, grows to about two feet high, is armed with ſtrong ſpines, and ſends forth branches all around. The lower-leaves are compoſed of ſeven oblong, ſmoothiſh folioles; thoſe higher on the plant of five, and thoſe neareſt the extremity of three only. The flowers adorn the tops of the main-ſtalks and branches a great way down, growing on ſlender footſtalks, and compoſed of ſeveral long, looſe ſpikes; their colour is purple, and they are ſucceeded by taper pods, containing the ſeeds.

Serrated,

9. Serrated *Cleome*. The ſtalks are herbaceous, branching a little, and about a foot and a half high. The leaves are each compoſed of three narrow, ſpear-ſhaped, ſerrated folioles, which join together at the baſe. The flowers are hexandrous, and adorn the upper-parts of the ſtalks for a conſiderable length.

Monophyllous Indian,

10. Monophyllous Indian *Cleome*, or Viſcous Baſtard Muſtard of Ceylon. The ſtalk is herbaceous, angular, clammy, and grows to about a foot high. The leaves are ſimple, oval, ſpear-ſhaped, narrow, ſticky, and grow alternately on the ſtalk. The flowers grow ſingly from the wings of the leaves on ſlender footſtalks; their

colour is yellow, and they are ſucceeded by ſlender, taper pods, containing the ſeeds.

and Violet Portugal Cleome deſcribed.

11. Violet Portugal *Cleome.* The ſtalks are herbaceous, round, and about a foot and a half high. The leaves are each compoſed of three narrow, ſpear-ſhaped, undivided folioles. The flowers come out from the wings of the leaves on the upper-parts of the plant; their colour is a fine violet, and they are ſucceeded by ſlender, awl-ſhaped pods, containing the ſeeds.

Variety.

There is a variety of this ſpecies with yellow flowers.

Bird's-Foot Trefoil Podded Cleome deſcribed.

12. Bird's-Foot Trefoil Podded *Cleome*, or Oriental Baſtard Muſtard. The ſtalks of this plant are herbaceous, upright, and about eight inches high. The leaves are compoſed of three ſpear-ſhaped folioles, which join at the baſe, and are ſituated on ſhort footſtalks. The flowers grow ſingly from the ſides of the ſtalks towards the upper-part; their colour is red, and they are ſucceeded by pods like thoſe of Bird's-Foot Trefoil, containing the ſeeds.

Culture of the laſt two ſorts.

The laſt two ſorts will grow very well, if the ſeeds are ſown in a border of rich, light earth, in the ſpring. When the plants come up, nothing more need be done than to thin them to proper diſtances, keep them clean from weeds, and water them in evenings in dry weather; they will then flower in July, and the ſeeds ripen in Auguſt or September.

The ſeeds alſo may be ſown in the autumn, and the plants will come up, ſtand the winter, and flower earlier by a month than thoſe raiſed in ſpring. Theſe ſorts will frequently ſcatter their ſeeds, which growing, will become good plants without any trouble in raiſing them.

Culture of the firſt ten ſorts.

All the other ſorts, coming from hotter countries, muſt be more tenderly managed. A good hotbed muſt be in readineſs for the reception of the ſeeds by the middle of March. It muſt be covered ſix inches deep of any common mould, and the ſeed ſown in pots filled with good, light earth. The pots muſt be then plunged into the mould of the hotbed; in a little time, if your ſeeds are good, your plants will come up; at which time you muſt be careful to grant them a due admiſſion of air, to prevent their being drawn up weak; and you muſt alſo, at proper intervals, afford them ſome water, which ſhould be done with ſlightly ſprinkling When the plants are about two, three, or four inches high, according to their ſorts, all except one ſhould be taken out of each pot, and ſet in others ſeparately. The greateſt caution ſhould be obſerved not to break the fibres on their removal; and after they are planted, theſe, together with the pots, containing one undiſturbed plant, ſhould be plunged up to the rims in the mould of the ſecond hotbed. Here they muſt be ſhaded conſtantly in the heat of the day, air on all favourable opportunities muſt be granted them, watering muſt not be neglected; and by ſuch time as the heat of the bed is abated, they will have filled the pots with the roots. Let them then be removed into larger pots; in doing of which be careful not to diſturb the mould at the roots, which may with proper caution in turning them out of the pots be done, and after this they ſhould have the benefit of a third hotbed; though if the ſecond hotbed be well lined with freſh dung, and a moderate heat kept up for a little time, it will be ſufficient.

As the plants advance in height, the frames muſt be raiſed, and more air and water daily afforded them. With this management they will flower in July; but in order to obtain ripe ſeeds, they ſhould not be removed from under the cover of the glaſſes, ſo that two or three plants of the reſpective ſpecies ſhould be left there, or removed into the ſtove, or ſet in the glaſs-caſe, in order with certainty to afford good ſeeds for a ſucceſſion.

The plants left undiſturbed in the pots, at the firſt tranſplanting, will be the forwardeſt and ſtrongeſt, and conſequently moſt likely to afford good ſeeds to continue the ſorts.

Titles.

1. Seven-leaved *Cleome* is titled, *Cleome floribus gynandris, foliis ſubſeptenatis, caule aculeato.* Miller calls it, *Cleome floribus hexandris, foliis ſeptenis, caule ſpinoſo, ſiliquis pendulis*; Burman, *Sinapiſtrum Indicum ſpinoſum, foliis 5, 6, 7. numero incertis*; Herman, *Sinapiſtrum Ægypticum heptaphyllum, flore carneo, majus ſpinoſum*; Moriſon, *Pentaphyllum peregrinum ſiliquoſum bivalve majus*; and Ray, *Sinapiſtrum Indicum majus quinquefolium aſperum.* It grows naturally in both the Indies. Hepta-phylla.

2. Five-leaved Red-flowered *Cleome* is, *Cleome floribus gynandris, foliis quinatis, caule inermi.* In the *Hortus Cliffort.* it is termed, *Cleome floribus gynandris, foliis digitatis.* Herman calls it, *Sinapiſtrum Indicum pentaphyllum, flore carneo, minus non ſpinoſum*; Plukenet, *Papaver corniculatum acre quinquefolium Ægypticum minus*; Moriſon, *Pentaphyllum peregrinum ſiliquoſum bivalve minus*; and Caſpar Bauhine, *Quinquefolium lupini folio.* It is a native of both Indies. Pentaphyl-la.

3. Three-leaved *Cleome* is, *Cleome floribus gynandris, foliis ternatis, caule inermi.* Herman calls it, *Sinapiſtrum Indicum triphyllum, flore carneo, non ſpinoſum.* It is a native of both Indies. Triphylla.

4. Icoſandrous *Cleome* is, *Cleome floribus icoſitetrandris, foliis quinatis.* Burman calls it, *Sinapiſtrum Zeylanicum pentaphyllum viſcoſum, flore flavo.* It grows naturally in Ceylon. Icosandra.

5. Viſcous *Cleome* is, *Cleome floribus dodecandris, foliis quinatis.* Burman calls it, *Sinapiſtrum Zeylanicum triphyllum & pentaphyllum viſcoſum, flore flavo.* It grows naturally in Ceylon and Malabria. Viscosa.

6. Dodecandrous *Cleome* is, *Cleome floribus dodecandris, foliis ternatis.* Burman calls it, *Sinapiſtrum triphyllum pumilum glabrum, floſculo purpureo, ſiliquâ membranaceâ*; and Sloane, *Sinapiſtrum Indicum triphyllum, flore carneo, non ſpinoſum.* It grows naturally in the Eaſt and Weſt Indies. Dodecan-dra.

7. Polygamous *Cleome* is, *Cleome floribus ſuperioribus maſculis tetrandris, foliis ternatis, foliolis ſeſſilibus, margine ſubaculeatis.* Brown calls it, *Cleome erectum triphyllum, floribus ſolitariis alaribus.* It is a native of Jamaica. Polygama.

8. Prickly Indian *Cleome* is, *Cleome floribus hexandris, foliis ſeptenatis quinatiſque, caule ſpinoſo.* It grows naturally at the Havanna. Spinosa.

9. Serrated *Cleome* is, *Cleome floribus hexandris, foliis ternatis: foliolis lineari-lanceolatis ſerratis.* It grows common in America. Serrata.

10. Monophyllous Indian *Cleome* is, *Cleome floribus hexandris, foliis ſimplicibus ſeſſilibus lineari-lanceolatis, caule angulato.* Burman calls it, *Sinapiſtrum Zeylanicum viſcoſum, folio ſolitario, flore flavo, ſiliquâ tenui.* It is a native of India. Capensis. is the description, but Monophyllus the Plant.

11. Violet Portugal *Cleome* is, *Cleome floribus hexandris, foliis ternatis ſolitariiſque: foliolis lineari-lanceolatis integerrimis.* In the *Hortus Cliffort.* it is termed, *Cleome floribus hexandris, genetalibus declinatis, ſiliquis ſubulatis.* Barrelier calls it, *Trifolium ſiliquoſum, flore violaceo, Luſitanicum*; alſo, *Sinapiſtrum peregrinum alterum, flore luteo.* It grows naturally in Portugal. Violacea.

12. Bird's-Foot Trefoil Podded *Cleome* is, *Cleome floribus hexandris, foliis ternatis: foliolis ovali-lanceolatis.* In the *Hortus Cliffortianus* it is termed, *Cleome floribus hexandris, genitalibus declinatis, ſiliquis teretibus toroſis.* Buxbaum calls it, Ornithopo-dioides.

it, *Sinapiſtrum orientale triphyllum, ornithopodii ſiliquis.* It grows naturally in the Eaſt.

Claſs and order in the Linnæan ſyſtem. The characters.

Cleome is of the claſs and order *Tetradynamia Siliquoſa*; and the characters are,

1. Calyx is a ſmall, deciduous perianthium, compoſed of four leaves, which ſpread open.

2. Corolla conſiſts of four aſcending, patent petals, of which the lower ones are leſs than the others.

There are three nectariferous, roundiſh glands, one of which is ſituated at each diviſion of the cup, the loweſt only excepted.

3. Stamina are ſix or more awl-ſhaped, declinated filaments, with lateral, aſcendent antheræ.

4. Pistillum conſiſts of a ſimple ſtyle, an oblong, declinated germen the length of the ſtamina, and a thick, aſſurgent ſtigma.

5. Pericarpium is a long, cylindrical, unilocular pod, ſitting on the ſtyle, and opening with two valves.

6. Semina. The ſeeds are many, and roundiſh.

CHAP. XCI.

CLEONIA.

THERE is only one ſpecies of this genus, called, *Cleonia.*

The plant deſcribed.

The ſtalk is herbaceous, and about a foot and a half high. The leaves are ſinuated, ſerrated, and grow oppoſite on ſhort footſtalks. The flowers come out in ſpikes from the tops of the ſtalks, attended by indented, ciliated bracteæ; they are of a violet colour, having a mixture of white; they appear in July and Auguſt, and the ſeeds ripen in the autumn.

Method of propagation.

This plant is raiſed by ſowing the ſeeds in the autumn, as ſoon as they are ripe, or in the ſpring. When the plants come up they require no trouble, except thinning them where they are too cloſe, and keeping them clean from weeds.

Titles.

Lusitanica

There being no other ſpecies of this genus, it is ſtiled ſimply, *Cleonia.* Loefling calls it, *Prunella bracteis pinnato-dentatis ciliatis*; Barrelier, *Prunella odorata Luſitanica, flore violaceo*; Tournefort, *Clinopodium Luſitanicum ſpicatum & verticillatum*; and Cornutus, *Bugula odorata Luſitanica.*

Claſs and order in the Linnæan ſyſtem. The characters.

Cleonia is of the claſs and order *Didynamia Gymnoſpermia*; and the characters are,

1. Calyx is a monophyllous, tubular, angular, bilabiated perianthium. The upper-lip is a little plane, broad, and indented in three parts; the lower-lip is ſhort, and divided into two parts.

2. Corolla is one ringent petal. The upper lip is ſtraight, bifid, and carinated; the lower lip is trifid, the middle ſegment being bilobed, the ſide ones ſpreading far aſunder.

3. Stamina. There are four bifurcated filaments, of which the two lower ones are the longeſt. The antheræ are inſerted into the exterior points of the filaments.

4. Pistillum conſiſts of a germen divided into four parts, a filiforme ſtyle the length of the ſtamina, and four ſetaceous, equal ſtigmas.

5. Pericarpium. There is none. The ſeeds are contained in the calyx.

6. Semina. The ſeeds are four, taper, and ſmooth.

CHAP. XCII.

CLITORIA.

Species.

OF this genus there are,
1. Ternatean *Clitoria.*
2. Braſilian *Clitoria.*
3. Virginian *Clitoria.*
4. Maryland *Clitoria.*
5. Jamaica *Clitoria.*

Deſcription of Ternatean Clitoria.

1. Ternatean *Clitoria.* The ſtalk is herbaceous, ſlender, twining, and if ſupported will grow to about four or five feet high. The leaves are pinnated, being compoſed of about two or three pair of folioles, which are terminated by an odd one; they are of a pleaſant green colour, and grow alternately on the ſtalks. The flowers come out from the ſides of the ſtalks near the upper-parts, on longiſh footſtalks, adorned with leaves; they are large, very beautiful, and the general characters will indicate their ſtructure.

Varieties.

The varieties of this ſpecies are,
The Deep-blue Flowered,
The White Flowered,
The Double Blue,
The Double White.

The root is perennial in the iſland Ternate, and thoſe parts of India where it naturally grows. With us it is an Annual, the whole plant dying ſoon after the ſeeds are ripe.

Braſilian Clitoria deſcribed.

2. Braſilian *Clitoria.* The ſtalk is herbaceous, ſlender, twining, and will riſe by aſſiſtance to about ſix feet high. The leaves are trifoliate, and ſtand ſingly at the joints on long footſtalks. With theſe the flowers come out on long footſtalks, which are ſurrounded about the middle with ſmall oval leaves; they are large, and of an elegant blue colour; with good management they will be in full blow in July, and the ſeeds ripen in Auguſt.

Varieties.

The principal varieties are,
The Large Standard Single-blue Braſilian *Clitoria,*
The Full Double-blue Flowered Braſilian *Clitoria.*

Virginian

3. Virginian *Clitoria.* The ſtalks are herbaceous, ſlender, and will twine about any thing that is near them ſix or ſeven feet high. The leaves grow ſingly at the joints, and each of them is compoſed of three oblong, pointed folioles. Oppoſite to this ariſes a naked flower-ſtalk about an inch long, ſupporting one flower. It is ſmall, with reſpect to the former, of a greeniſh-white colour on the outſide, but purple within; they will be in blow in July and Auguſt, and the ſeeds ripen in September.

Maryland,

4. Maryland *Clitoria.* The ſtalks are weak, twining, and grow to about five feet high. The leaves come out ſingly from the joints, and each is compoſed of three oblong, narrow, pointed folioles, of a light-green colour on the outſide, and whitiſh underneath. The flowers are ſmall, and grow two together on a footſtalk; their outſide is a dull-white, and they are of a pale blue within; they come out in Auguſt, and ſometimes are ſucceeded by ripe ſeeds in the autumn.

and Jamaica Clitoria deſcribed.

5. Jamaica *Clitoria.* The ſtalks are ſlender, twining, and grow to about four or five feet high. The leaves are each compoſed of three oval, ſmooth folioles. The flowers grow in oblong, looſe ſpikes; their colour is purple; they come out in July and Auguſt, and are ſucceeded by taper pods, containing the ſeeds.

Culture.

The propagation of all theſe ſorts is by ſowing the ſeeds in pots filled with light, ſandy, freſh earth, early in the ſpring. Four or five ſeeds ſhould be put in each pot, and then immediately plunged up to the rims in the mould of a good hotbed; the plants will ſoon come up, when a due admiſſion of air muſt be granted them, to prevent their turning yellow, and drawing weak. Water muſt be given them by ſprinkling; they muſt have but a little at a time, and three times a week will be as often as they require it. When the plants get about an inch and a half or two inches high, the weakeſt muſt be drawn out, leaving two or three only of the ſtrongeſt in every pot. As the weather gets warm, more air muſt be given them, and the plants ſhaded from the noon ſun. When the heat of the bed abates, it muſt be lined with freſh dung; and when that is exhauſted, the plants muſt be removed to a ſecond hotbed. If the pots in which they grow are very ſmall, the pots ſhould be ſhifted into larger, obſerving to turn the mould out with ſo much care that the roots may not be diſturbed. When they have ſtood their due time in the ſecond hotbed, they ſhould be removed into the ſtove, and for want of this a third hotbed muſt be prepared; in either caſe ſticks muſt be thruſt down by the ſides of each, for them to twine about; and if they are continued in hotbeds, multiplying frames muſt be uſed, that the glaſſes may be raiſed as they advance in height. Thus they will flower about July and Auguſt, and for the moſt part ripen their ſeeds in September, or early in October.

I make no doubt but all theſe ſorts are perennial in their own countries; with us, however, they are Annuals, and ſuch beautiful ones as no good collection ought to be without.

The Double kinds all riſe immediately from the ſame ſort of ſeeds as the ſingle, and ſometimes it ſo happens that all the plants of the firſt two ſorts produce double flowers; when the kinds muſt be loſt, unleſs recourſe be had to procure ſeeds from the countries where they naturally grow, to keep up the ſtock; which method indeed ſhould be always preferred, if it can be conveniently done, as ſuch ſeeds are always the beſt, and moſt productive of double flowers.

Titles.

Ternatea.

1. Ternatean *Clitoria* is, *Clitoria foliis pinnatis.* Commelin calls it, *Phaſeolus Indicus, glycyrrhizæ foliis, flore amplo cæruleo*; Breynius, *Flos clitoridis Ternatenſium*; and Rumphius, *Flos cæruleus.* It grows naturally in the iſland Ternate, and in many parts of the Eaſt and Weſt Indies.

Brasili=
=ana.

2. Braſilian *Clitoria* is, *Clitoria foliis ternatis, calycibus campanulatis ſolitariis.* In the *Hortus Cliffort.* it is termed, *Clitoria foliis ternatis.* Brey-

nius calls it, *Planta leguminoſa Braſiliana, phaſeoli flore, flore purpureo maximo.* It is a native of the Braſil iſlands.

Virginiana.

3. Virginian *Clitoria* is, *Clitoria foliis ternatis, calycibus campanulatis ſubgeminis.* Brown calls it, *Clitoria major ſcandens, floribus geminatis*; and Dillenius, *Clitorius trifolius, flore minore cæruleo.* It grows naturally in Virginia and Jamaica.

Mariana.

4. Maryland *Clitoria* is, *Clitoria foliis ternatis, calycibus cylindricis.* Petiver calls it, *Clitorius Marianus, trifolius, ſubtus glaucus.* It grows naturally in North America.

Galactia.

5. Jamaica *Clitoria* is, *Clitoria foliis ternatis, floribus pendulis, racemo erecto.* Brown calls it, *Galactia foliis ovatis, glabris pinnato-ternatis, ſpicis oblongis*; and Sloane, *Phaſeolus minor lacteſcens, flore purpureo.* It is a native of Jamaica.

Claſs and order in the Linnæan ſyſtem.

Clitoria is of the claſs and order *Diadelphia Decandria*; and the characters are,

The characters.

1. Calyx is a monophyllous, erect, tubular, permanent perianthium, indented in five parts at the top.

2. Corolla is papilionaceous.

The vexillum is large, erect, ſpreaded, waved, and indented.

The alæ are oblong, ſtraight, obtuſe, and ſhorter than the vexillum.

The carina is roundiſh, hooked, and ſhorter than the wings.

3. Stamina are diadelphous, (nine join in a body, the other is ſingle) having ſimple antheræ.

4. Pistillum conſiſts of an oblong germen, a riſing ſtyle, and an obtuſe ſtigma.

5. Pericarpium is a very long, narrow, compreſſed pod, compoſed of two valves, and containing one cell.

6. Semina. The ſeeds are many, and kidney-ſhaped.

* * *

CHAP. XCIII.

CLYPEOLA, CLYPEATED MUSTARD.

THERE is only one Annual of this genus, called, Leaſt Buckler Muſtard, or *Serpillum*-leaved *Clypeola.*

The plant deſcribed.

The ſtalks are numerous, ſlender, rough, hoary, procumbent, about five inches long, and for the moſt part lie on the ground. The leaves are numerous, ſmall, hoary, narrow at the baſe, and rounded at the extremity. The flowers terminate the branches in cloſe ſpikes; they are ſmall, yellow, come out in June and July, and the ſeeds ripen in September.

Propagation of it.

The ſeeds ſhould be ſown in the autumn, ſoon after they are ripe, or in the ſpring, or indeed at any other time of the year; they will readily grow; and after they come up, nothing more need be done than to thin them where they are too cloſe, and keep them clean from weeds. When they have once flowered, they will ſcatter their ſeeds, which will grow and maintain the ſucceſſion without further trouble, except taking away ſuch as may happen to grow in improper places.

Titles.

Jonthlaspi.

This ſpecies is titled, *Clypeola ſiliculis unilocularibus monoſpermis.* Caſpar Bauhine calls it, *Thlaſpi clypeatum, ſerpilli folio*; and Columna, *Jonthlaſpi minimum ſpicatum lunatum.* It grows naturally on ſandy, gravelly ground in Italy, and the South of France.

CHAP.

CHAP. XCIV.

COCHLEARIA, SCURVY-GRASS, or SPOON-WORT.

THE following ſpecies, though of no very great beauty, are nevertheleſs cultivated in ſome gardens, either for the ſake of variety of ſorts, or for their medicinal uſes, which are very great; viz.

Species.
1. Garden Scurvy-graſs.
2. Engliſh, or Common Sea Scurvy-graſs.
3. Daniſh Scurvy-graſs.
4. Greenland Scurvy-graſs.
5. Swine's Creſſes.
6. Woad-leaved Scurvy-graſs.

Deſcription of the Garden, 1. The Garden Scurvy-graſs riſes with a ſmooth, brittle ſtalk, to about eight or ten inches in height. The radical leaves are roundiſh, ſucculent, and hollowed like a ſpoon; thoſe on the ſtalk are of an oblong figure, and ſinuated. The flowers grow in cluſters at the ends of the branches, are ſmall, of a white colour, will be in blow in April or May, and produce ripe ſeeds in June or July.

Sea, 2. Sea Scurvy-graſs. The ſtalks are ſtriated, and will grow to about the ſame height with the former. The leaves are oval, ſpear-ſhaped, and ſinuated on their edges. The flowers terminate the ſtalks in great plenty, are ſmall, of a white colour, will be in blow in May, and ripen their ſeeds in July.

Daniſh, 3. Daniſh Scurvy-graſs. There are two or three varieties of this ſpecies. The ſtalks of one are trailing, and thoſe of another are more erect; their length is about half a foot. The leaves are haſtated, or angular, and very much reſemble thoſe of Ivy. Hence the name Ivy-leaved Scurvy-graſs has been uſed to expreſs this ſpecies. The flowers are ſmall, and grow from the tops of the ſtalks in plenty; they will be in blow in May, and ripen their ſeeds in July.

and Greenland Scurvy-graſs. 4. Greenland Scurvy-graſs. This is a very low plant, ſeldom riſing higher than about four inches. The leaves are very ſmall and convex, very fleſhy, kidney-ſhaped, and have their edges entire. The flowers appear in May, and their ſeeds ripen in June or July.

Swine's Creſſes deſcribed. 5. Swine's Creſſes, or Buck's-horn. This ſpecies hath ſeveral weak, ſtraggling branches, which ſeparate or divide from each other in the ſpreading manner of a buck's horn. Hence the name Buck's-horn has been uſed to expreſs this plant. The leaves are pinnatifid, and ſmooth. The flowers are produced from the ſides of the branches in ſmall cluſters; they are of an herbaceous colour, will be in blow in May and June, and ripen their ſeeds in July.

Woad-leaved Scurvy-graſs deſcribed. 6. Woad-leaved Scurvy-graſs. The ſtalks are upright, and will grow to about a foot and a half high. The leaves are angular, heart-ſhaped, and embrace the ſtalks with their baſe. The flowers grow from the ends of the branches in looſe ſpikes; they are ſmall, of a white colour, will be in blow in May and June, and ripen their ſeeds in July and Auguſt.

Culture. The ſeeds of all theſe ſpecies ſhould be ſown in July or Auguſt, and they will ſoon come up, and be good, ſtrong plants by the autumn. Where they are too cloſe, they muſt be thinned to proper diſtances; and the ground muſt conſtantly be kept clean from weeds. Early in the ſpring they will advance for flowering, and will blow and ripen their ſeeds about the times above-mentioned.

Titles. 1. The Garden Scurvy-graſs is titled, *Cochlearia foliis radicalibus ſubrotundis, caulinis oblongis ſubſinuatis.* Caſpar Bauhine calls it, *Cochlearia folio ſubrotundo*; and John Bauhine, *Cochlearia.* It grows naturally on the ſea-ſhores and the mountainous parts of Europe. Officinalis.

2. Engliſh or Common Sea Scurvy-graſs is, *Cochlearia foliis ovato-lanceolatis ſinuatis.* Miller calls it, *Cochlearia foliis radicalibus lanceolatis integerrimis, caulinis ſubſinuatis*; Caſpar Bauhine, *Cochlearia folio ſinuato*; and Lobel, *Cochlearia Britannica ſive Anglica.* It grows naturally on moſt of our ſea-ſhores. Anglica.

3. Daniſh Scurvy-graſs is, *Cochlearia foliis haſtatis angulatis* Tournefort calls it, *Cochlearia anemonica*; Lobel, *Thlaſpi hederaceum*; and Caſpar Bauhine, *Cochlearia Danica repens*; alſo, *Cochlearia minor erecta.* It grows naturally on the Daniſh ſhores. Danica.

4. Greenland Scurvy-graſs is. *Cochlearia foliis reneiformibus carnoſis integerrimis.* Boerhaave calls it, *Cochlearia minima ex montibus Walliæ.* It grows naturally in the mountainous parts of Greenland and Wales. Groenlandica.

5. Swine's Creſſes, or Buck's-horn, is titled, *Cochlearia foliis pinnatifidis.* Caſpar Bauhine calls it, *Ambroſia campeſtris repens*; and Cammerarius, *Pſeudo-ambroſia.* It grows naturally by the ſides of paths in England and many parts of Europe. Coronopus.

6. Woad-leaved Scurvy-graſs is, *Cochlearia foliis caulinis obcordato-ſagittatis amplexicaulibus.* Caſpar Bauhine calls it, *Lepidium glaſtifolium*; and Dalechamp, *Lepidium annuum.* It grows naturally in the fields of Ratiſbon. Glastifolia.

CHAP.

CHAP. XCV.

COIX.

THERE is only one ſpecies of this genus, called Job's Tears.

The plant deſcribed.

The root is thick and fibrous. The ſtalks are round, jointed, and grow to about a yard high. The leaves reſemble thoſe of Reeds, are long, narrow, and grow ſingly at the joints. The flowers are produced in ſpikes from the bottoms of the leaves, ſtanding on ſhort footſtalks; they are of a paliſh-yellow colour; and the female flowers are ſucceeded by large, beautiful, oval, ſmooth, grey-coloured ſeeds.

Varieties.

There is a variety of this ſpecies with broad leaves, and another with finely-poliſhed, purple-coloured ſeeds.

Uſes of their ſeeds

The ſeeds of theſe varieties are ground into flour in Portugal and Spain, of which a coarſe but hearty kind of bread is made for the labouring people.

Culture.

This ſpecies is eaſily raiſed by ſowing the ſeeds in a hot-bed in the ſpring. When they come up, they muſt have plenty of air, and be frequently watered; and this is all the trouble they will require until the middle or latter end of May; when, on a moiſt day, they may be taken up, with a ball of earth to each root, and planted in the places where they are deſigned to remain.

If the ground is in good heart, they will grow proportionally ſtronger, will flower in July, and for the moſt part perfect their ſeeds in the autumn. A few plants ſhould be ſet under a warm hedge or wall, to be ſaved for ſeeds; that they may be covered with glaſſes at the time of blow, and afterwards, in caſe a wet ſeaſon ſhould happen; otherwiſe you will have no ſeeds for a ſucceſſion.

After all, if the ſeeds can be annually procured from Portugal or Spain, it will be the beſt way to purſue that practice; for ſuch ſeeds are always the beſt, and produce the ſtrongeſt and fineſt plants.

Titles.

Lacryma Jobi.

As another ſpecies was formerly ſuppoſed to belong to this genus, this was diſtinguiſhed by the title *Coix ſeminibus ovatis*; and with that name it now ſtands in the *Species Plantarum*, though no other ſpecies is known to belong to it. Caſpar Bauhine calls it, *Lithoſpermum arundinaceum*; Cluſius, *Lacryma Jobi*; and Rumphius, *Ova piſcium*. It grows naturally in both the Indies.

Claſs and order in the Linnæan ſyſtem.

Coix is of the claſs and order *Monœcia Triandria*; and the characters are,

The characters.

I. Male Flowers, which are diſpoſed in a looſe ſpike.

1. Calyx is a glume compoſed of two oblong, oval, obtuſe valves, and contains two flowers.

2. Corolla is two oval, ſpear-ſhaped valves, the length of the calyx.

3. Stamina are three capillary filaments, with oblong, four-cornered antheræ.

II. Female Flowers, ſituated below the Male.

1. Calyx is a glume compoſed of two roundiſh, thick, bright valves, and contains two flowers.

2. Corolla is two oval valves, of which the outer is the largeſt.

3. Pistillum conſiſts of a very ſmall, oval germen, a ſhort ſtyle divided into two parts, and two downy, horned ſtigmas, which are longer than the flower.

4. Pericarpium. There is none. The ſeed is covered by the calyx.

5. Semen. The ſeed is ſingle, roundiſh, hard, and ſmooth.

* * *

CHAP. XCVI.

COLDENIA.

THERE is only one ſpecies of this genus, called ſimply *Coldenia*.

The plant deſcribed.

The ſtalks are ſlender, trail on the ground, are branching, and grow to about ſix inches long. The leaves are ſhort, crenated, glaucous, nervous, and ſit cloſe without any footſtalks on the branches The flowers come out in ſmall cluſters from the wings of the leaves, are ſmall, of a pale-blue colour, appear in June and July, and the ſeeds ripen in September.

Method of raiſing it.

The ſeeds ſhould be ſown in pots filled with light, ſandy earth; and the pots ſhould be immediately plunged up to the rims in the mould of a good hot-bed. The plants will readily come up; and ſoon after they have made their appearance, the weakeſt ſhould be drawn out, leaving only three or four of the ſtrongeſt in each pot. Air, on all favourable occaſions, muſt be given them; and they muſt be ſlightly watered three times a week. By the time the heat of the bed is abated, a ſecond hot-bed is to be prepared, and, when it is in proper temperature, covered with five inches depth of light, ſandy, rich earth. When the mould is well ſettled, holes muſt be made with the hand, all over it, at ſix or eight inches aſunder; and then the plants are to be turned out of the pots, with the mould at the roots, and ſet in the holes. The mould muſt be then gently preſſed to the ſides, and they muſt have a watering, and be conſtantly ſhaded at firſt. The management of them afterwards is only to give them air as you ſee occaſion, and conſtantly to ſupply them with water; and in this ſecond bed, being kept under the glaſſes, they will flower and perfect their ſeeds.

Titles. Procum-bens. This plant is named *Coldenia*. Plukenet calls it, *Teucri facie biſnagarica tetracoccos roſtrata*. It grows naturally in India.

Claſs and order in the Linnæan Syſtem. The characters: *Coldenia* is of the claſs and order *Tetrandria Tetragynia*; and the characters are,

1. CALYX is a perianthium, the length of the corolla, compoſed of four ſpear-ſhaped, erect leaves.

2. COROLLA is a funnel-ſhaped petal, having an obtuſe, ſpreading brim.

3. STAMINA are four filaments inſerted in the tube of the flower, terminated by roundiſh antheræ.

4. PISTILLUM conſiſts of four oval germina, and the like number of capillary ſtyles the length of the ſtamina, with ſimple, permanent ſtigmas.

5. PERICARPIUM. There is none. The fruit is oval, compreſſed, rough, ſharp-pointed, and terminated by four beaks.

6. SEMINA. The ſeeds are four, rough, acuminated, convex on one ſide, and angular on the other.

CHAP. XCVII.

COLUTEA, BLADDER *SENNA*.

THERE are only three ſpecies of this genus; one has been already treated of, in its varieties, as an hardy ſhrub for the wilderneſs quarters and other extenſive works. The other ſpecies are called,

Species.

1. Shrubby Æthiopian Bladder *Senna*, or Scarlet *Colutea*.
2. Herbaceous Æthiopian Bladder *Senna*.

Deſcription of Shrubby Æthiopian Bladder Senna. 1. Shrubby Æthiopian Bladder *Senna*, or Scarlet *Colutea*, riſes with a ſhrubby, branching ſtalk, to the height of about four feet. The leaves are beautifully pinnated, and each conſiſts of ten or twelve pair of hoary, oblong, oval folioles, which are terminated by an odd one; they are of a ſilvery whiteneſs, and the whole plant aſſumes the beautiful appearance of Jupiter's Beard. The flowers are of a fine ſcarlet colour, come out from the uppermoſt part of the branches in June and July, and are ſucceeded by large, inflated pods, which ſometimes will contain ripe ſeeds in the autumn.

Method of raiſing it. The ſeeds of this ſpecies ſhould be ſown late in the ſpring, in the places where they are to remain; and they will be ſtronger plants, and produce larger and finer flowers, than if they had been removed. The ſoil ſhould be warm, dry, and well defended; otherwiſe there will be great danger of loſing all the plants the ſucceeding winter, if it ſhould happen to be ſevere. When the plants come up, they ſhould be weeded conſtantly; but they ſhould not be much thinned until the ſpring following, leſt a very hard winter ſhould cauſe a ſecond thinning greater than you would deſire. After they have ſtood the winter, therefore, and all danger of bad weather is over, draw out the weakeſt, and leave the others at a yard aſunder; they will then flower ſtrong in the ſummer, and ſometimes ripen their ſeeds in the autumn.

If the ſeeds are ſown early in the ſpring, and the plants like their ſituation, they will flower the firſt autumn; and this method may be practiſed, when no regard is had to ſaving of the ſeeds.

Theſe ſhrubs will ſometimes live three, and now-and-then four years; but as they generally go off ſoon after they have flowered, or, though they ſurvive a winter or two longer, hardly ever look beautiful afterwards, they ought to be treated as Biennials, and raiſed accordingly.

Theſe plants uſed to be preſerved in the greenhouſe with great care; but as, in tolerably well-ſheltered ſituations, they are found to ſurvive our ordinary winters, and become ſtronger and more beautiful plants than thoſe that have been uſed to the houſe, that method is now diſcontinued. Nevertheleſs, where the ſoil is cold, damp, and the ſituation expoſed, let the ſeeds be ſown in pots filled with light, ſandy earth, and let them be plunged up to the rims in the common mould. At the appoach of ſevere weather, the winter following, let the pots be removed into ſhelter; and in the ſpring, when all danger of ſuch weather is over, let the plants be turned out, with the mould at the roots, in the open ground; and then they will become ſtronger than if the ground was ſandy, gravelly, poor, and dry.

Proper ſituation. As this is a very elegant plant, and a ſhrub, ſome of them ſhould be ſtationed in the moſt conſpicuous parts of the ſhrubbery and wilderneſs works.

Herbaceous Æthiopian Bladder Senna. 2. Herbaceous Æthiopian Bladder *Senna*. The ſtalks are ſlender, herbaceous, branching a little, and grow only to about a foot high. The wings are pinnated, each being compoſed of five or ſix pair of narrow, hoary folioles. The flowers come out from the upper parts of the branches, three growing together on a ſlender footſtalk; they are ſmall, purpliſh, come out in July, and are ſucceeded by flat oval pods, containing ripe ſeeds, in the autumn; ſoon after which the whole plant dies.

Culture.

This plant is raiſed by ſowing of the ſeeds on a moderate hot-bed in the ſpring. When the plants come up, they muſt have plenty of air, be kept clean from weeds, and duly watered; and about the middle of May, making choice of a moiſt day, if poſſible, they ſhould be taken up, with balls of earth to the roots, and ſet in the places where they are deſigned to remain. For want of a moiſt day, the ground ſhould be well ſoaked with water in the morning, and the removal of the plants ſhould be performed in the evening. When they are fixed in their new ſituation, they muſt be ſhaded, and conſtantly watered, until they have taken root; and afterwards they will call for no trouble, except keeping them clean from weeds.

Titles.

1. Shrubby Æthiopian Bladder *Senna*, or Scarlet *Colutea*, it titled, *Colutea fruticoſa, foliolis ovato-oblongis.* Breynius calls it, *Colutea Æthiopica, flore purpureo.* It grows naturally in Æthiopia.

Frutescens.

2. Herbaceous Æthiopian Bladder *Senna* is, *Colutea herbacea, foliolis linearibus.* Commelin calls it, *Colutea Africana annua, foliolis parvis mucronatis. veſiculis compreſſis*; and Volkamer, *Colutea Africana, veſiculis compreſſis, floſculis atrorubentibus.* It grows naturally in Æthiopia.

Herbacea.

CHAP. XCVIII.

COMMELINA.

THERE is only one ſpecies of this genus proper for this place, called Annual *Commelina.*

The plant deſcribed.

The ſtalks are weak, ſmooth, branching, two feet long, trailing, and put out roots from the joints. The leaves are oval, ſpear-ſhaped, acute, veined, ſmooth, of a ſtrong-green colour, grow ſingly at the joints, and embrace the ſtalk with their baſe. The flowers come out from the boſom of the leaves (two or three flowers only being in each ſpatha), and have ſhort footſtalks: two of the larger petals are of a fine blue, the others of a green colour: Their appearance is in June and July, and the ſeeds ripen in the autumn.

Method of propagation.

This ſpecies is propagated by ſowing the ſeeds in the autumn ſoon after they are ripe. When the plants come up, nothing more need be done than to thin them where they are too cloſe, and keep them clean from weeds; and ſuch plants will flower early in the ſummer, and produce plenty of ripe ſeeds.

The ſeeds may be alſo ſown in the ſpring; but then the plants will flower late in the ſummer, and, unleſs a very warm autumn ſhould happen, will afford you no good ſeeds for a ſucceſſion.

Titles. Communis.

This ſpecies is titled, *Commelina corollis inæqualibus, foliis ovato-lanceolatis acutis, caule repente glabro.* In the *Hortus Cliffort.* it is termed, *Commelina foliis ovato-lanceolatis, caule procumbente glabro, petalis duobus majoribus.* Dillenius calls it, *Commelina procumbens annua, ſaponariæ folio.* It grows naturally in Armenia.

Claſs and order in the Linnæan ſyſtem.

Commelina is of the claſs and order *Triandria Monogynia*; and the characters are,

The characters.

1. CALYX is a large, cordated, connivent, compreſſed, permanent ſpatha.

2. COROLLA conſiſts of ſix petals, of which the outer ones are ſmall, oval, concave, and are often taken for a perianthium; the three others are large, roundiſh, and coloured.

There are three nectaria, which have the appearance of ſtamina, being placed horizontally on their own ſeparate filaments.

3. STAMINA. Theſe are three awl-ſhaped, reclinated filaments, agreeing with thoſe of the nectaria, having oval antheræ.

4. PISTILLUM conſiſts of a roundiſh germen, an awl-ſhaped, revolute ſtyle the length of the ſtamina, and a ſimple ſtigma.

5. PERICARPIUM is a naked, nearly globular, three-furrowed, trivalvate capſule, containing three cells.

6. SEMINA. The ſeeds are two in each cell, and angular.

CHAP. XCIX.

CONIUM, HEMLOCK.

Species.

OF this ſpecies there are,
1. African Hemlock.
2. Common Poiſonous Hemlock.

Deſcription of African Hemlock.

1. African Hemlock. The ſtalks of this ſpecies are round, hollow, branching a little, and grow to near a foot high. The leaves are divided into many parts, and much reſemble thoſe of the Small Wild Rue. The flowers are produced from the ends of the ſtalks in compound umbels; they are of a yellow colour, come out in July, and the ſeeds ripen in the autumn.

Culture.

It is propagated by ſowing of the ſeeds on a moderate hot-bed in the ſpring. When the plants come up, the weakeſt muſt be drawn out, if they are too cloſe, to make room for the others. Water muſt be afforded them every other evening, and they muſt have as much air as the weather will permit at firſt, and afterwards be hardened by degrees to the open air. In the middle or end of May, in a moiſt day, or, for want of that, in an evening, they ſhould be taken up, with a ball of earth to each root, and planted in the places where they are deſigned to remain. At firſt they ſhould be watered and ſhaded; but when they have taken root, they will call for no further aſſiſtance.

Common Poiſonous Hemlock deſcribed.

2. Common Poiſonous Hemlock. This grows common on banks, by the ſides of roads, in hedges, &c. and is for the moſt part extirpated from gardens. Nevertheleſs, for the ſake of thoſe who may want to gather it for medicinal purpoſes, a deſcription of it may not be improper. The plant is a Biennial. The root is thick, white, long, ſtrikes into the ground like a parſnep, is of a ſtrong ſcent, and ſaid by ſome to be of an agreeable taſte. The radical leaves are decompound, and very large, being compoſed of a multitude of ſhort, ſerrated folioles, of a deep-green colour, and a ſtrong, diſagreeable ſmell. The ſtalks are upright, ſmooth, hollow, branching, frequently ſpotted with purple, and will grow to about five feet high. The flowers are produced from the ends of the branches in compound umbels; they are of a white colour, come out in June, and are ſucceeded by ſmall, channelled ſeeds, like thoſe of Aniſe, which will be ripe in September.

Variety.

There is a variety of this ſpecies with narrow, pale-coloured leaves, which is pretty permanent by ſeeds, and is admitted in ſome gardens where a general collection of plants is making.

If a plant or two of either of theſe ſpecies is permitted to flower and ſcatter the ſeeds, they will ſoon afford you ſtock enough.

Titles.

1. African Hemlock is titled, *Conium ſeminibus aculeatis*. Boerhaave calls it, *Caucalis Africana, folio minore rutæ*. It grows naturally in Africa.

Africanum.

2. Common Poiſonous Hemlock is titled, *Conium ſeminibus ſtriatis*. Caſpar Bauhine calls it, *Cicuta major*; Cluſius, *Cicutaria major vulgaris*; Gerard and Lobel, *Cicuta*; Geſner, *Cicuta vera*; and Parkinſon, *Cicuta vulgaris major*. It grows naturally among old rubbiſh, by the ſides of roads and ditches, on banks, in hedges, neglected gardens, &c. in England and moſt parts of Europe.

Maculatum.

Another ſpecies.

There is another ſpecies of this genus, called Royen's Hemlock, which I have not ſeen. The title is, *Conium ſeminibus radiato-ſpinoſis*. It is not yet certainly known in what part of the world this ſpecies grows naturally.

Claſs and order in the Linnæan Syſtem. The characters.

Conium is of the claſs and order *Pentandria Digynia*; and the characters are,

1. CALYX. The general umbel is compoſed of many ſpreading rays. The partial is ſimilar.

The general involucrum is unequal, and compoſed of many very ſhort leaves. The partial is ſimilar.

The proper perianthium is very ſmall.

2. COROLLA. The general corolla is uniforme. Each ſeparate flower conſiſts of five unequal, inflexed, heart-ſhaped petals.

3. STAMINA are five ſimple filaments, with roundiſh antheræ.

4. PISTILLUM conſiſts of a germen ſituated below the flower, and two reflexed ſtyles with obtuſe ſtigmas.

5. PERICARPIUM. There is none. The fruit is roundiſh, channelled, and divided into two parts.

6. SEMINA. The ſeeds are two, nearly hemiſpherical, ſtriated, convex on one ſide, and plane on the other.

CHAP. C.

CONVOLVULUS, BINDWEED.

OF the *Convolvulus* the following are proper ſpecies to join in the aſſortment of Annuals for the enrichment of our gardens; viz.

Species.

1. Small Sicilian *Convolvulus.*
2. *Convolvulus* Indigo.
3. *Convolvulus Major.*
4. *Convolvulus Minor.*

Among theſe are numbers of varieties, from which many imaginary ſpecies have ariſen.

Small Sicilian Convolvulus deſcribed.

1. Small Sicilian *Convolvulus.* This ſpecies hath a very ſlender, winding ſtalk, and will twine about any thing to the height of about two feet; though it is ranked among the proſtrate ſpecies. The leaves are of a cordated, oval figure. The flowers are ſmall, of a blueiſh colour, and will be ſucceeded by plenty of ripe ſeeds.

Deſcription of Convolvulus Indigo

2. *Convolvulus* Indigo has a ſlender, winding ſtalk, which will twine about any thing to the height of about eight or ten feet. The leaves are cordated, and each is divided into three pointed lobes; they grow on long footſtalks, and are very hairy. The flowers conſtitute the greateſt beauty of this plant; they are of a very deep-blue colour, and from hence the appellation of Indigo has been given this ſpecies. One footſtalk uſually ſupports two flowers, which will be in blow in the months of Auguſt, September, and even in October, if the froſts keep off, and in favourable ſeaſons afford good ſeeds for a ſucceſſion.

and Convolvulus Major.

3. *Convolvulus Major* is an Annual well known to almoſt every Gardener; and the varieties of it are many. The leaves, in general, are of a roundiſh, heart-ſhaped figure; and the flowers are of different colours in the different varieties. There are,

Varieties.

The Deep Purple-flowering *Convolvulus Major.*
The White Ditto.
The Red Ditto.
The Blue Ditto.

The leaves, alſo, in the different varieties, vary, ſome of them being round, others cordated; whilſt a third ſort retains, in ſome meaſure, the ſame figure, but grows on longer footſtalks, and ends in acute points. They are all very beautiful, and are a great ornament to our gardens in Auguſt, September, and October, at which time they will at once exhibit fair flowers and ripe ſeeds for a ſucceſſion.

Convolvulus Minor deſcribed.

4. *Convolvulus Minor* is alſo a well-known Annual. The ſtalks are not poſſeſſed of that twining property with the others, but naturally proſtrate themſelves on the ground, and will grow to about two feet in length. The leaves are of a lanceolate figure, and ſit cloſe to the branches. The moſt beautiful and moſt common ſort produces flowers of a delightful blue colour, with white bottoms. But there is the White and the Variegated *Convolvulus Minor.* The White is leſs frequent, and by far leſs beautiful; and the ſeeds of this ſort are uſually white, whereas thoſe of the Blue are of a dark colour. This ſpecies, eſpecially, in many places, goes by the name of The Life of Man; it having flower-buds in the morning, which will be in full blow by noon, and withered up before night. All of them, however, have this property, and may be uſeful to us in our meditations.

Method of propagation.

All theſe hardy ſpecies are eaſily propagated. Sow the ſeeds in almoſt any ſoil and ſituation, and they will readily come up, and flower well; though the Twining ſpecies ſhould rather have a warm place, to bring greater plenty of ſeeds to perfection. Theſe ſhould alſo be ſtuck in the ſame manner as Peaſe, and they will twine about the ſticks, and ſhew their flowers to advantage. The Proſtrate Species ſhould be ſown in rows, near the edge of a large border, and they will have a ſplendid look in the morning, when their flowers will be all open. In hot weather, their ſhow will be over by about noon; for by that time they will be chiefly withered and gone off.

But, beſides the hardy Annuals, there are other ſpecies of this genus of a very tender nature, which require conſtantly to be kept under glaſſes to the end of their ſhort-lived exiſtence; and theſe are,

Small Indian Chick-weed-leaved Convolvulus deſcribed.

The Small Indian Chickweed-leaved *Convolvulus.* The ſtalks are very weak, and proſtrate. The leaves are oval, hairy, about the ſize of the Common Chick-weed, and grow alternately on the branches. The flowers are ſmall, of a light-blue colour, two of them uſually growing on a footſtalk, and with tender nurſing may be made to produce good ſeeds.

Deſcription of Large Hairy American Red-flowering,

Large Hairy American Red-flowering Bindweed will riſe with its winding ſtalk to about eight feet. The leaves are cordated, pointed, and grow on long footſtalks on the branches. The flowers are large, of a red colour, two uſually growing on a footſtalk, and are ſucceeded by downy ſeeds.

Ivy-leaved Blue-flowering,

Ivy-leaved Blue-flowering Bindweed will have twining, ſlender ſtalks, about four feet long. The leaves are triangular, and pointed. The flowers are blue, are produced in cluſters, ſit cloſe to the ſides of the ſtalks, and with tender management will perfect their ſeeds.

Jamaica Cluſter-flowering,

Jamaica Cluſter flowering Bindweed will ſend forth ſlender, twining ſtalks, about eight feet long. The leaves are like thoſe of the Common Great Bindweed. The flowers are very beautiful; they are produced in bunches, and are of a delightful purple colour.

and Oblong Smooth-leaved Bindweed

Oblong Smooth-leaved Bindweed hath winding ſtalks about ſeven feet in length. The leaves are of an oblong, oval figure, and are very ſmooth. The flowers are very long and large, of a fine purple colour, and grow ſingly on long footſtalks from the joints of the ſtalks.

Deſcription of American Marſh-Mallow-leaved

American Marſh-Mallow-leaved *Polyanthos* Bindweed will twine about any thing to the height of about eight or nine feet. The leaves are cordated, ſoft to the touch, downy, and a little reſemble thoſe of the Marſh Mallow. The flowers are produced on ſtrong footſtalks; each footſtalk ſupports many of them, and their colour is a very good purple.

and American Birthwort-leaved Polyanthos Bindweed

American Birthwort-leaved *Polyanthos* Bindweed will wind itſelf round any thing to the height of about nine feet. The leaves are ſagittated, and the ears at the baſe are rounded.

The flowers are yellow, and are produced in cluſters on long footſtalks.

Method of propagation. To have theſe ſorts flower, the ſeeds ſhould be ſown early in the ſpring on a good hot-bed; and when the plants are fit to remove, they ſhould be planted in pots, obſerving to preſerve a ball of earth to each root. Theſe pots ſhould be then plunged into another hot-bed, be gently watered, ſhaded in the heat of the day, and have as much air as poſſible, to prevent their drawing weak. As the plants advance in height, the glaſſes muſt be raiſed; for hardly any of them will bear the open air with us; ſo that if there be the conveniency of a ſtove, the beſt way will be to remove them there as ſoon as they get too large for the hot-bed, where they will flower and perfect their ſeeds beſt.

Titles. Siculus. 1. Small Sicilian Bindweed is titled, *Convolvulus foliis cordato-ovatis, pedunculis unifloris, bracteis lanceolatis, flore ſeſſili.* Boccone calls it, *Convolvulus Siculus minor, flore parvo auriculato*. It is a native of Sicily.

2. *Convolvulus* Indigo is, *Convolvulus foliis cordatis trilobis, corollis ſemiquinquefidis, pedunculis petiolo brevioribus.* Dillenius and the Bauhines agree in calling it, *Convolvulus cæruleus, hederaceo anguloſo folio.* It grows common in Africa and America. Nil.

3. *Convolvulus Major* is, *Convolvulus foliis cordatis indiviſis, fructibus cernuis, pedicellis incraſſatis.* Caſpar Bauhine calls it, *Convolvulus purpureus, folio ſubrotundo.* It grows common in America. Purpureus.

4. *Convolvulus Minor* is, *Convolvulus foliis lanceolato-ovatis, caule declinato, pedunculis unifloris.* This is the *Convolvulus Luſitanicus flore cyaneo* of old Botaniſts. It grows naturally in Portugal.

* * *

CHAP. CI.

CONYZA, FLEA-BANE.

THE ſhort-lived ſpecies of this genus go by the various names of,

Species.
1. Ploughman's Spikenard.
2. Decurrent Flea-bane.
3. Indian Groundſel.

Deſcription of Ploughman's Spikenard. 1. Ploughman's Spikenard. The root is thick, fleſhy, tough, and remarkable for its fine, agreeable fragrance. The ſtalks are round, upright, firm, branching, and grow to about two feet high. The leaves are oblong, ſpear-ſhaped, ſerrated, and hairy: The radical ones are broad, and moderately large; but thoſe on the ſtalks are ſmaller, and grow alternately. The flowers are produced from the ends of the branches in roundiſh bunches, are of a dark or browniſh-yellow colour, make their appearance in June and July, and the ſeeds ripen in Auguſt and September.

Decurrent Flea-bane deſcribed. 2. Decurrent Flea-bane. The ſtalks are herbaceous, erect, forked, downy, and grow to about a foot high. The leaves are ſpear-ſhaped, downy, ſerrated, and decurrent. The flowers are produced from the wings of the leaves in roundiſh heads, are of a dirty-white or blueiſh colour, make their appearance in July, and the ſeeds ripen in the autumn.

Indian Groundſel deſcribed. 3. Indian Groundſel. The ſtalks of this ſpecies are herbaceous, upright, branching a little, and grow to about a foot high. The leaves are oblong, oval, and ſome of them are ſpear-ſhaped; the edges of ſome are ſerrated, and others indented. The flowers are produced in panicles from the ends of the ſtalks, are of a yellowiſh colour, come out in July, and the ſeeds ripen in September.

Culture of the firſt ſpecies. The firſt ſpecies is a Biennial, and grows common by way-ſides, and dry, barren places, in many parts of England. Whoever is deſirous of cultivating it in his garden, ſhould ſow the ſeeds, the end of April, in a bed of any common mould made fine. When they come up, they ſhould be thinned to proper diſtances, and kept clean from weeds all ſummer. By the autumn they will be ſtrong plants; and the ſummer after they will flower, and perfect their ſeeds, which, if permitted to ſcatter, will produce you plants enough for a ſucceſſion without further trouble.

Culture of the ſecond and third ſpecies. The ſecond and third ſpecies are natives of India, Annuals, and tender plants. The ſeeds ſhould be ſown on a hot-bed in the ſpring. When the plants come up, they ſhould have all neceſſary air, and be frequently ſprinkled with water. When they are about three inches high, they ſhould be removed, with a ball of earth to each root, to a ſecond hot-bed. In this they muſt be uſed to the open air by degrees; and when they are fully hardened, a ſhare may be ſet out, with a ball of earth to the roots, in the places where they are deſigned to remain; whilſt a few plants of each ſpecies ſhould be left ſtill in the hot-bed, to be covered in great rains, &c. in order with the greater certainty to produce good ſeeds for a ſucceſſion.

Titles. 1. Ploughman's Spikenard is titled, *Conyza foliis lanceolatis acutis, caule annuo corymboſo.* Squarrosa. Caſpar Bauhine calls it, *Conyza major vulgaris*; Cammerarius, *Conyza*; and Gerard, *Baccharis Monſpelienſium.* It grows naturally in England, France, and Germany.

2. Decurrent Flea-bane is titled, *Conyza foliis* Decurrens. *decurrentibus lanceolatis ſerrulatis, caule ſubdichotomo, floribus axillaribus ſeſſilibus glomeratis.* It inhabits India.

3. Indian Groundſel is, *Conyza foliis oblongis,* Cinerea. *floribus paniculatis.* In the *Flora Zeylanica* it is termed, *Senecioides.* Burman calls it, *Senecio Indica, foliis ternis crenatis*; Plukenet, *Eupatorium, anguſtiore folio, Bermudenſe, floribus flaveſcentibus*; and Rhumphius, *Olus ſcrophinum.* It grows naturally in India.

CHAP. CII.

CORCHORUS, JEWS MALLOW.

Species.

THE Annuals of this genus are,
1. Common Jews Mallow.
2. American Jews Mallow.

Deſcription of Common Jews Mallow.

1. Common Jews Mallow. This plant riſes with an herbaceous, tender, branching ſtalk, to the height of about two feet. The leaves are of different ſhapes, ſome being oval, ſome ſpear-ſhaped, and others heart-ſhaped; they are of a deep-green colour, ſerrated, have two briſtly, reflexed ſegments near the baſe, and grow on long footſtalks. The flowers come out ſingly from the ſides of the branches oppoſite the leaves; their colour is yellow; they appear in July and Auguſt, and are ſucceeded by oblong, rough, ſwelling capſules, containing the ſeeds, which will be ripe in the autumn.

Its uſes.

This plant is cultivated at Aleppo as an eſculent, and is in great eſteem there, eſpecially with the Jews, who prefer it, when boiled, to moſt other herbs, to eat with their meat.

American Jews Mallow deſcribed.

2. American Jews Mallow. The ſtalk is herbaceous, tender, branching, and grows to about a yard high. The leaves are oblong, heart-ſhaped, pointed, ſerrated, and grow ſingly at the joints on ſhort footſtalks. The flowers come out ſingly from the ſides of the branches without any footſtalks; they are ſmall and yellow; they come out in July and Auguſt, and are ſucceeded by ſhort, roundiſh, rough, ſtriated pods, containing the ſeeds, which will be ripe in the autumn.

Varieties of it.

The ſeeds of both theſe ſorts will produce varieties; the leaves of ſome being narrower, others more deeply ſerrated, ſome with larger flowers, and ſome of a deep-yellow colour; whilſt others, again, will ſhew themſelves of a pale-ſtraw colour.

Method of propagating them.

Theſe plants are raiſed by ſowing the ſeeds on a hotbed in the ſpring. When the plants come up, the weakeſt ſhould be drawn out, leaving the others at about three inches aſunder. Air, on all favourable occaſions, muſt be granted them, to prevent their drawing up weak; and they muſt have frequent ſprinklings of water. When the plants are about three inches high, they ſhould be ſet each in its own ſeparate pot, filled with light, ſandy, freſh earth. The pots ſhould be then plunged up to the rims in a ſecond hotbed, and the plants well watered and kept conſtantly ſhaded, until they have taken root; they will ſoon ſhew good ſigns of growth, when proportionally more air and water muſt be every day allowed them. When the heat of this bed abates, the plants ſhould be ſhifted into larger pots; in doing of which be careful to turn the mould out clean and undivided, that the roots may not be diſturbed, which would otherwiſe greatly retard their growth. This being done, the pots ſhould be plunged up to the rims in the mould of a third hotbed; here they may be inured by degrees to the open air; and when this is done, the greateſt part may be turned out, with the mould at the roots, into the open ground, leaving a few plants of each ſort ſtill in the hotbed, to be covered in caſe very cold, rainy weather ſhould happen, that there may be a greater certainty from theſe of obtaining good ſeeds for a ſucceſſion.

Titles.

Olitorius.

1. Common Jews Mallow is titled, *Corchorus capſulis oblongis ventricoſis, foliorum ſerraturis infimis ſetaceis.* In the *Hortus Cliffort.* it is termed, *Corchorus foliorum infimis ſerraturis maximè reflexis.* Caſpar Bauhine calls it, *Corchorus Plinii*; and Commeline, *Corchorus.* It grows naturally in Aſia, Africa, and America.

Capſularis.

2. American Jews Mallow is, *Corchorus capſulis ſubrotundis depreſſis rugoſis.* In the *Hortus Cliffort.* it is termed, *Corchorus foliorum infimis ſerraturis minoribus.* Plukenet calls it, *Alcea olitoria, ſ. corchorus Americanus, prælongis foliis, capſulâ ſtriatâ ſubrotundâ brevi.* It inhabits India.

Claſs and order in the Linnæan ſyſtem.

Corchorus is of the claſs and order *Polyandria Monogynia*; and the characters are,

The characters.

1. CALYX is a perianthium compoſed of five narrow, ſpear-ſhaped, acute, erect, deciduous leaves.

2. COROLLA conſiſts of five oblong, obtuſe, erect petals, which are narroweſt at the bottom, and of the ſame length with the calyx.

3. STAMINA are numerous, capillary filaments, ſhorter than the corolla, having ſmall antheræ.

4. PISTILLUM conſiſts of an oblong, furrowed germen, a ſhort, thick ſtyle, and a bifid ſtigma.

5. PERICARPIUM is an oblong capſule, compoſed of five valves, and containing five cells.

6. SEMINA. The ſeeds are many, angular, and ſharp-pointed.

CHAP. CIII.

COREOPSIS, TICK-SEED.

Species. THE ſhort-lived ſpecies of this genus are,
1. Carolina Spear-leaved Tick-ſeed.
2. American Pinnated Tick-ſeed.
3. Aquatick Tick-ſeed.
4. Coronated Tick-ſeed.

Carolina Spear-leaved, 1. Carolina Spear-leaved Tick-ſeed. The ſtalk is herbaceous, firm, and erect. The leaves are ſpear-ſhaped, entire, ſmooth, and placed oppoſite to each other. The flowers come out from the wings of the leaves on long, naked, erect footſtalks; they are large; the rays are yellow, and deeply cut into many ſegments; they make their appearance in July and Auguſt, and the ſeeds ripen in September.

American Pinnated, 2. American Pinnated Tick ſeed. The ſtalks are herbaceous, ſlender, and grow to about two feet high. The leaves are pinnated, being compoſed of about two or three pair of oblong, ſerrated folioles, which are terminated by an odd one. The flowers are produced from the ends of the ſtalks; the rays are large, and vary in their colour, though the general ground is white; they appear in July and Auguſt, and the ſeeds ripen in September.

Aquatick 3. Aquatick Tick-ſeed. The ſtalks are herbaceous, and grow to about two feet high. The leaves are ſpear-ſhaped, ſerrated, grow oppoſite to each other, and embrace the ſtalk with their baſe. The flowers terminate the ſtalks in July and Auguſt; they are finely radiated, of a golden-yellow colour, and are ſucceeded by good ſeeds in the autumn.

and Coronated Tick-ſeed deſcribed. 4. Coronated Tick-ſeed. The leaves are pinnated, and compoſed of two pair of ſmooth, ſtreaked, acute, ſerrated folioles, which are terminated by an odd one. The flowers are finely radiated; they crown the ſtalks in July and Auguſt, and the ſeeds ripen in the autumn.

Culture. Theſe ſorts are all raiſed by ſowing the ſeeds in a hotbed in the ſpring. When the plants come up they muſt have plenty of air, and be frequently refreſhed with water; the weeds muſt be drawn out as they ariſe, and with this management they may ſtand until about the middle of May. Then on a moiſt day (or, for want of that, in an evening) they ſhould be taken up with a ball of earth to each root, and ſet in the places where they are deſigned to remain. Here they ſhould be ſhaded, and, if the weather makes it neceſſary, watered every day until they have taken root. In July and Auguſt they will flower, and for the moſt part perfect their ſeeds in the autumn; but as it ſometimes happens, that at the end of the year very wet and cold weather ſucceeds a propitious ſummer, to the great annoyance of many ſorts of ſeeds, advancing towards maturity at that ſeaſon; in ſuch caſes it will be neceſſary to cover a few plants of each ſort with hand-glaſſes, to protect them from external injuries of theſe kinds, that there may be a greater certainty of procuring good ſeeds for a ſucceſſion.

Plants of theſe kinds will ſometimes riſe from ſcattered ſeeds, without ſowing; and ſuch plants will often flower earlier, and be more certain of producing good ſeeds, than thoſe which have been raiſed with the moſt tender management.

Titles. 1. Carolina Spear-leaved Tick-ſeed is titled, *Coreopſis foliis lanceolatis integerrimis ciliatis.* In the *Hortus Cliffort.* it is termed, *Coreopſis.* Van Royen calls it, *Coreopſis foliis integerrimis*; Dillenius, *Bidens ſuccisæ folio, radio amplo laciniato*; and Martin, *Bidens Caroliniana, florum radiis latiſſimis inſigniter dentatis, ſemine alato per maturitatem convoluto.* It inhabits Carolina. Lanceolata.

2. American Pinnated Tick-ſeed is, *Coreopſis foliis pinnatis ſerratis, florum radio diverſi-colore.* It grows naturally in America. Leucantha.

3. Aquatick Tick-ſeed is, *Coreopſis foliis lanceolatis ſerratis oppoſitis amplexicaulibus.* Triumfetti calls it, *Hepatorium aquale, folio non diviſo, flore aureis petalis undique radiato*; Moriſon, *Chryſanthemum aquaticum bidens, folio non diviſo, flore aureis petalis undique radiato*; and Barrelier, *Eupatorium cannabinum chryſanthemum.* It grows naturally by the ſides of ditches and watery places in many parts of Europe; alſo in Penſylvania. Bidens.

4. Coronated Tick-ſeed is, *Coreopſis foliis pinnatis ſerratis lineatis glabris.* Vaillant calls it, *Ceratocephalus foliis pentapteris acutis, flore radiato*; and Plumier, *Bidens pentaphylla, flore radiato.* It grows naturally in Virginia. Coronata.

CHAP.

CHAP. CIV.

CORIANDRUM, CORIANDER.

THERE are only two ſpecies of this genus, called,

Species.
1. The Common Cultivated Coriander.
2. The Smaller Teſticulated Coriander.

Deſcription of the Common Cultivated,

1. Common Cultivated Coriander. The ſtalk is round, ſlender, ſtriated, branching, and grows to about two feet high. The leaves are compoſed of many parts; the ſegments of the lower leaves are broad, crenated, and of a pale-green colour; but thoſe on the ſtalks are narrow, and finely divided. The flowers grow in umbels at the ends of the branches; their colour is white; they appear in June and July, and the ſeeds ripen in Auguſt.

and Smaller Teſticulated Coriander.

The leaves of this ſpecies are of a fœtid ſmell; whereas the ſeeds, when dry, are remarkable for their agreeable flavour.

2. The Smaller Teſticulated Coriander. This plant is not much unlike the former, only that the leaves are ſmaller, the ſtalks angular, and the fruit is double and large. It is hardly ever cultivated in gardens, neither are its virtues or uſes in medicine yet known.

Culture.

Both theſe ſorts are eaſily propagated, by ſowing the ſeeds in the autumn or ſpring. After they have once flowered, the ſeeds ſcattering will afford you plants enough for a ſucceſſion without further trouble.

The firſt ſort is often cultivated in large quantities for the ſake of the ſeeds. When this is required, the ground ſhould be made fine, and in March the ſeeds muſt be ſown thinly with an even hand. When the plants are about an inch and a half high, they ſhould be thinned, leaving the ſtrongeſt about ſix inches diſtance from each other. The ground will require a ſecond hoeing about a month or ſix weeks after, to kill the weeds; and this is all the trouble they will require.

Some people are fond of this plant, when young, as a ſallad. When they are to be raiſed for this purpoſe, the ſeeds ſhould be ſown in the autumn for the firſt crop, and about two more ſowings ſhould be made at the interval of a week in the ſpring. Further repetition of ſowing need not be had, for in the ſummer they ſoon grow ill-taſted, and too rank for uſe.

Medicinal qualities of it.

The green leaves, boiled with crums of bread, or barley-meal, or beans, are ſaid to be good againſt ſwellings and inflammations, and are powerful in diſſolving wens and hard lumps in the fleſh.

The ſeeds, prepared with ſugar, promote digeſtion, good hearing, and are powerful againſt ſquinancies, gout, &c.

Titles.

1. The Common Cultivated Coriander is titled, *Coriandrum fructibus globoſis.* Caſpar Bauhine calls it, *Coriandrum majus:* and John Bauhine, *Coriandrum.* It grows naturally by the road-ſides and tillage-fields in England, and alſo in Italy. Sativum.

2. The Smaller Teſticulated Coriander is, *Coriandrum fructibus didymis.* John Bauhine calls it, *Coriandrum minus odorum*; Caſpar Bauhine, *Coriandrum minus teſticulatum*; alſo, *Coriandrum ſylveſtre fœtidiſſimum.* It grows naturally in moſt of the ſouthern parts of Europe. Teſticulatum.

Claſs and order in the Linnæan ſyſtem. The characters.

Coriandrum is of the claſs and order *Pentandria Digynia*; and the characters are,

1. Calyx The general umbel is compoſed but of few radii, the partial of many. The general involucrum is ſcarce monophyllous. The partial is compoſed of three narrow leaves. The perianthium is indented in five parts.

2. Corolla. The general corolla is difform and radiated. The florets conſiſt each of five heart-ſhaped, inflexed petals.

3. Stamina are five capillary filaments, with roundiſh antheræ.

4. Pistillum conſiſts of a germen ſituated below the flower, and two awl-ſhaped, diſtant, permanent ſtyles, the length of the leaſt petal, with radiated ſtigmas.

5. Pericarpium. There is none. The fruit is ſpherical, and diviſible into two parts.

6. Semina. The ſeeds are two, hemiſpherical and concave.

CHAP.

CHAP. CV.

CORIS.

THERE is only one ſpecies of this genus, called, Maritime *Coris.*

The plant deſcribed.

The ſtalks are round, ſmooth, firm, purpliſh, branching, and about ſix inches high. The leaves are narrow, oblong, ſpreading, grow alternately, and adorn the plant in great plenty. The flowers come out in ſpikes from the ends of the branches; they are ſmall, but very beautiful; they appear in June and July, and the ſeeds ripen in the autumn.

Varieties.

The varieties of this ſpecies are,

The Purple-flowered *Coris.*

The Red *Coris.*

The Blue *Coris.*

The White *Coris.*

All theſe varieties will often ſhew themſelves from one kind of ſeeds.

Culture

Coris is propagated by ſowing the ſeeds on a hotbed in the ſpring. When the plants come up, they muſt have plenty of air, be frequently watered, and about the middle of May, on a moiſt day, ſhould be taken up with a ball of earth to each root, and ſet in the places where they are deſigned to remain. They muſt be ſhaded and watered until they have taken root, and afterwards will require no further trouble, except keeping them clean from weeds.

Slips taken from theſe plants will grow; theſe ſhould be ſet in pots in Auguſt, well watered, and placed in a ſhady part of the green-houſe. When they have taken root, they muſt be removed into the open air, but at the approach of hard weather in winter they ſhould be taken into ſhelter. In the ſpring, when all danger of bad weather is over, they ſhould be taken out of the pots with the mould at the roots, into the places where they are deſigned to remain; they will flower the June or July following, but ſuch plants are rarely ſo beautiful as thoſe raiſed from ſeeds; and as they ripen well in our gardens, the beſt way will be to treat them as Annuals, and conſtantly ſow the ſeeds every year.

Titles. Monspe-liensis.

There being no other ſpecies of this genus, it ſtands ſimply with the name *Coris.* Caſpar Bauhine calls it, *Coris cærulea maritima*; and Camerarius, *Symphytum petræum.* It grows naturally in ſandy ſoils near the ſea, eſpecially in moſt of the ſouthern parts of Europe.

Claſs and order in the Linnæan ſyſtem. The characters.

Coris is of the claſs and order *Pentandria Monogynia*; and the characters are,

1. Calyx is a monophyllous, ventricoſe, connivent perianthium, indented in five parts, and crowned with five ſpines.

2. Corolla is an irregular petal. The tube is cylindrical, and the length of the calyx. The limb is plane, and divided into five oblong, emarginated, obtuſe ſegments, of which the two lower ones are the ſhorteſt, and more diſtant.

3. Stamina are five ſetaceous, declinated filaments the length of the corolla, having ſimple antheræ.

4. Pistillum conſiſts of a roundiſh germen, a filiforme, declining ſtyle the length of the ſtamina, and a thickiſh ſtigma.

5. Pericarpium is a globular, unilocular capſule, compoſed of five valves, and ſituated in the bottom of the calyx.

6. Semina. The ſeeds are many, oval, and ſmall.

CHAP. CVI.

CORISPERMUM.

THERE are only two ſpecies of this genus, called,

Species.

1. Hyſſop-leaved *Coriſpermum.*
2. Reed-leaved *Coriſpermum.*

Hyſſop-leaved,

1. Hyſſop-leaved *Coriſpermum.* This hath a tender, herbaceous ſtalk, garniſhed with oval, ſpear-ſhaped leaves, placed oppoſite to each other. The flowers come out from the ſides of the branches; they are ſmall, of a white colour, appear in May and June, and the ſeeds ripen in July and Auguſt.

and Reed-leaved Coriſpermum deſcribed.

2. Reed-leaved *Coriſpermum.* The ſtalks are very delicate, tender, and branching. The leaves are long, narrow, and pointed like thoſe of the Reed. The flowers come out in rough ſpikes from the ends of the branches; they appear in May and June, and ſometimes great part of the ſummer, and ripen their ſeeds.

Culture.

The ſeeds of the firſt ſort ſhould be ſown in the autumn, ſoon after they are ripe; and after they come up they will require no trouble, except thinning them to proper diſtances, and keeping them clean from weeds. The plants will afterwards ſcatter their ſeeds, which will grow, and regularly keep up the ſucceſſion without further trouble.

The ſecond ſort lives always in water; ſo that when a pond or lake happens in a large garden, the ſeeds being thrown into it, ſoon after they are ripe, they will grow, and the plants will rear their heads and ſhew their flowers above the water.

Titles. Hyſsopi-folium. 1. The firſt ſort is titled, *Coriſpermum floribus lateralibus.* In the *Hortus Cliffort.* it is termed, *Coriſpermum floribus alternis.* Juſſieu calls it, *Coriſpermum hyſſopifolium.* It grows naturally in Tartary, and the South of France.

Squarrosum. 2. The ſecond ſort is titled, *Coriſpermum ſpicis ſquarroſis*, Buxbaum calls it, *Rhagroſtis foliis arundinaceis.* It grows naturally in Tartary.

Claſs and order in the Linnæan ſyſtem. The characters. *Coriſpermum* is of the claſs and order *Monandria Digynia*; and the characters are,

1. Calyx. There is none.
2. Corolla conſiſts of two compreſſed, incurved, ſharp-pointed, equal petals, placed oppoſite to each other.
3. Stamina are one ſlender filament ſhorter than the petals, and a ſimple anthera.
4. Pistillum conſiſts of an acute, compreſſed germen, and two capillary ſtyles with acute ſtigmas.
5. Pericarpium. There is none.
6. Semen. The ſeed is ſingle, oval, compreſſed, and gibbous on one ſide.

CHAP. CVII.

CORONILLA, JOINTED-PODDED *COLUTEA.*

Species. THE Annuals of this genus are,

1. Cretan *Coronilla.*
2. Annual Spaniſh *Coronilla*, or Hatchet Vetch.

Cretan 1. Cretan *Coronilla.* The ſtalk is herbaceous, and about two feet high. The leaves are compoſed of about ſix pair of folioles, ranged along the midrib, and terminated by an odd one. The flowers are produced from the ſides of the ſtalks on ſhortiſh footſtalks; they are ſmall, and of a purpliſh colour; they appear in July, and are ſucceeded by long, taper, articulated pods, growing erect, and containing ripe ſeeds, in the autumn.

and Annual Spaniſh Coronilla deſcribed. 2. Annual Spaniſh *Coronilla.* This is uſually called Hatchet Vetch, and is the *Securidaca* of old botaniſts. The ſtalks are herbaceous, branching, trailing, and about a foot and a half long. The leaves are of a deep-green colour, ſmooth, and each is compoſed of ſeven or eight pair of oval, obtuſe folioles, which are terminated by an odd one. The flowers come out from the wings of the leaves on long footſtalks, which grow oppoſite to each other. Each of the footſtalks ſupports a cluſter of yellow flowers; the time of their appearance is July, and they are ſucceeded by long, falcated pods, containing ripe ſeeds, in the autumn.

Culture. Theſe plants are all propagated by ſowing the ſeeds in the ſpring, in a bed of common mould made fine. When they come up, they ſhould be thinned to proper diſtances; and this, except keeping them clean from weeds, and watering in dry weather, is all the trouble they will require.

Titles. Cretica. 1. Cretan *Coronilla* is titled, *Coronilla herbacea leguminibus quinis erectis teretibus articulatis, foliolis undenis.* Tournefort calls it, *Coronilla Cretica herbacea, flore parvo purpuraſcente.* It is a native of Crete.

Securi-daca. 2. Spaniſh *Coronilla*, or Hatchet Vetch is, *Coronilla herbacea, leguminibus falcato-gladiatis, foliolis plurimis.* Caſpar Bauhine calls it, *Securidaca lutea major*; and Dodonæus, *Hedyſarum primum.* It grows naturally in Spain among the corn.

C H A P.

CHAP. CVIII.

CORRIGIOLA.

THERE is only one ſpecies of this genus yet known, called *Corrigiola*.

The plant deſcribed. The ſtalk is round, ſlender, and ſix or eight inches long. The leaves are oblong, narrow, pointed, and of a blueiſh-green colour. The flowers come out in cluſters from the tops of the ſtalks; they are of a white colour, appear in July and Auguſt, and the ſeeds ripen in September.

Culture. This plant is propagated by ſowing the ſeeds in the autumn, ſoon after they are ripe, or in the ſpring following, in ſome light, ſandy part of the garden; after the plants come up, they will require no trouble, except thinning them where they are too cloſe, and keeping them clean from weeds.

Titles. It being the only ſpecies of this genus, it is termed ſimply, *Corrigiola*. Van Royen calls it, *Corrigiola caule faſciculis florum terminato*; and Caſpar Bauhine, *Polygonum lytoreum minus, floſculis ſpadiceo-albicantibus*. It grows naturally on the ſandy ſea-ſhores of Gaul and Germany.

Littoralis,

Claſs and order in the Linnæan ſyſtem. *Corrigiola* is of the claſs and order *Pentandria Trigynia*; and the characters are,

The characters.

1. CALYX is a perianthium compoſed of five oval, concave, patent, permanent leaves, about the ſize of the corolla.
2. COROLLA is five oval, patent leaves, ſcarcely larger than the calyx.
3. STAMINA are five ſmall, awl-ſhaped filaments, with ſimple antheræ.
4. PISTILLUM conſiſts of an oval, three-cornered germen, having no ſtyle, but three obtuſe ſtigmas.
5. PERICARPIUM. There is none. The calyx cloſes, and ſerves for a pericarpium.
6. SEMEN. The ſeed is ſingle, triquetrous, and oval.

CHAP. CIX.

COTULA, MAY-WEED.

THE following Annuals of this genus claim a place in every good collection of plants:

Species.

1. Chamomile-leaved May-weed.
2. Small Æthiopian May-weed.
3. African Turbinated May-weed.
4. Spaniſh Golden May-weed.

Deſcription of Chamomile-leaved, 1. Chamomile-leaved May-weed. The ſtalks are tender, branching, and grow to about a foot and a half high. The leaves are of a light-green colour, and beautifully divided into many ſegments, in the manner of thoſe of Chamomile. The flowers grow ſingly from the ends of the branches, but they are deſtitute of thoſe great ornaments to flowers of this claſs, the rays; their heads however, riſe high in the middle, and they have ſingularity to attract notice; they make their appearance in May and June, and the ſeeds ripen in Auguſt.

Small Æthiopian, 2. Small Æthiopian May-weed. The ſtalks are ſlender, trailing, and about ſix inches long. The leaves are ſpear-ſhaped, narrow, pinnatifid, and embrace the ſtalk with their baſe. The flowers come out from the wings of the branches on ſhort footſtalks; they are of a ſulphur colour, and, like the former, are deſtitute of rays; they come out in June and July, and the ſeeds ripen in September.

African Turbinated, 3. African Turbinated May-weed. The ſtalks divide into many branches, and ſpread themſelves on the ground. The leaves are beautifully divided into many ſegments, and covered all over with a cottony down. The flowers grow ſingly from the ſides of the branches on long footſtalks; they have rays of a white colour, and their center or middle is yellow; they make their appearance in June and July, and the ſeeds ripen in the autumn.

and Spaniſh Golden May-weed. 4. Spaniſh Golden May-weed. The ſtalks are herbaceous, branching, and ſpread themſelves on the ground; they are divided into many parts, in the manner of Chamomile. The flowers have no rays, but the middle riſes high, and is of a golden yellow colour; they make their appearance in June and July, and the ſeeds ripen in the autumn.

Culture of the laſt two ſorts. The ſeeds of the laſt two ſorts ſhould be ſown on a ſlight hotbed in the ſpring. About the middle of May, on a moiſt day, they ſhould be taken up with a ball of earth to the roots, and ſet in the places where they are deſigned to flower. If the weather ſhould prove warm ſoon after their being tranſplanted, they ſhould be ſhaded at firſt, and watered every other evening; and this, except keeping them clean from weeds, is all the trouble they will require.

The

Culture of the firſt two ſorts.

The ſeeds of the firſt two ſorts may be ſown in the open ground, in the autumn or ſpring. If you chuſe to have them flower early in the ſummer, ſow the ſeeds in the autumn; but if the work be deferred until late in the ſpring, they will flower early enough in the ſummer for the ſeeds to be perfected in the autumn. The plants having once flowered in a garden, ſcatter their ſeeds to a conſiderable diſtance, which will come up in improper places, and produce you more plants for a ſucceſſion than you would chuſe.

Titles.

Anthemoides.

1. Chamomile-leaved May-weed is titled, *Cotula foliis pinnato-multifidis dilatatis, corollis radio deſtitutis.* Dillenius calls it, *Ananthocyclus chamæmeli folio*; and Plukenet, *Chryſanthemum exoticum perpuſillum, foliis coronopi.* It grows naturally in Spain and Helena.

Coronopifolia.

2. Small Æthiopian May-weed is, *Cotula foliis lanceolato-linearibus amplexicaulibus pinnatifidis.* Dillenius calls it, *Ananthocyclus coronopi folio 5*; Breynius, *Chryſanthemum exoticum minus, capite aphyllo, chamæmeli nudi facie*; and Herman, *Bellis annua, capite aphyllo luteo coronopi folio, caulibus procumbentibus.* It is a native of Æthiopia.

Turbinata.

3. African Turbinated May-weed is, *Cotula receptaculis ſubtus inflatis turbinatis.* Breynius calls it, *Chamæmelum Æthiopicum lanuginoſum.* It grows naturally in Æthiopia.

Aurea.

4. Spaniſh Golden May-weed is, *Cotula foliis pinnato-ſetaceis multifidis, corollis radio deſtitutis.* Loefling calls it, *Cotula foliis pinnatim ſetaceis, caulibus procumbentibus*; Caſpar Bauhine, *Chamæmelum luteum, capite aphyllo*; John Bauhine, *Chamæmelum aureum peregrinum, capite ſine foliis*; and Lobel, *Anthemis chryſanthemum herbariorum.* It grows naturally in Spain, and moſt of the ſouthern parts of Europe.

Claſs and order in the Linnæan ſyſtem.

Cotula is of the claſs and order *Syngeneſia Polygamia Superflua*; and the characters are,

The characters.

1. CALYX. The common calyx is divided into many oval parts, of which the lower ones are rather the largeſt.

2. COROLLA. The general flower is convex, and about the ſame length with the calyx. The hermaphrodite florets in the diſk are numerous, and each of them is tubular, and cut at the top into four unequal parts, of which the outer one is the largeſt. The female half florets form the rays.

3. STAMINA of the hermaphrodites are four very ſmall filaments, having a tubular anthera the length of the corollulæ.

4. PISTILLUM of the hermaphrodites conſiſts of an oval germen, a filiforme ſtyle, and two obtuſe ſtigmas.

The piſtillum in the female florets conſiſts of a large, oval, compreſſed germen, a filiforme ſtyle the length of that of the hermaphrodites, and two ſimple ſtigmas.

5. PERICARPIUM. There is none. The ſeeds are lodged in the permanent calyx.

6. SEMINA. The ſeeds of the hermaphrodites are ſingle, ſmall, oval, trigonal, and have no down.

The ſeeds of the female florets are larger, ſingle, heart-ſhaped, ſurrounded by an obtuſe border, plane on one ſide, convex on the other, and attended with no down.

The receptacle is naked and plane.

* * *

CHAP. CX.

COTYLEDON, NAVEL-WORT, KIDNEY-WORT, or WALL PENNY-WORT.

Species.

OF this genus there are two Biennials, called,

1. Siberian *Cotyledon.*

2. Spaniſh *Cotyledon.*

Deſcription of the Siberian

1. Siberian *Cotyledon.* The root is fibrous. The ſtalks are upright, ſucculent, unbranching, and a foot and a half high. The leaves are oval, oblong, indented, thick, juicy, and grow alternately on the ſtalks. The flowers grow in looſe ſpikes at the tops of the ſtalks; they are of a reddiſh-purple colour, come out in June, and the ſeeds ripen in September.

and Spaniſh Cotyledon.

2. Spaniſh *Cotyledon.* The root is fibrous. The ſtalk is upright, taper, unbranching, and about five or ſix inches high. The leaves are oblong, taper, ſpotted, and ſit cloſe to the ſtalks. The flowers come out from the tops in bunches; they are ſmall, and of a reddiſh colour, having ſome ſtripes of purple; they come out in June, and the ſeeds ripen in September.

Varieties.

There is a variety of this ſpecies with yellow flowers, and another with a fine red colour, beautifully tipped with purple.

Culture.

The ſeeds of the firſt ſort ſhould be ſown, ſoon after they are ripe, in the crevices of old walls, buildings, grottos, ruins, &c. in which places they will grow, and be very ornamental.

The ſeeds of the ſecond ſhould be ſown in pots filled with light, rich earth, that they may be under ſhelter in winter; the ſummer following they will flower, and produce ſeeds for a ſucceſſion.

Titles.

Serrata.

1. Siberian *Cotyledon* is titled, *Cotyledon foliis ovalibus crenatis, caule ſpicato.* In the *Hortus Cliffort.* it is termed, *Cotyledon foliis radicalibus crenatis,*

natis caulinis ſubulatis. Dillenius calls it, *Cotyledon Cretica, folio oblongo fimbriato.* It grows naturally in Crete and Siberia.

Hispa-nica. 2. Spaniſh *Cotyledon* is, *Cotyledon foliis oblongis ſubteretibus, floribus faſciculatis.* Tournefort calls it, *Cotyledon maritima, ſedi folio, flore carneo, fibroſâ radice*; and Shaw, *Cotyledon paluſtris, ſedi folio, floribus rubris longioribus*; alſo, *Floribus luteis brevioribus.* It grows naturally in Spain, Africa, and the Eaſt.

CHAP. CXI.

CRAMBE, SEA COLEWORT.

THERE is one Annual of this genus, called, Spaniſh Sea Colewort.

The plant deſcribed. The ſtalk is round, robuſt, rough, firm, branching, and grows to be four feet high. The leaves are rough, heart-ſhaped, roundiſh, indented, and grow on long footſtalks. The flowers are ſmall, and grow on looſe ſpikes at the ends of the branches; their colour is white; they come out in June, and the ſeeds ripen in September.

Culture. This plant is propagated by ſowing the ſeeds in the autumn, ſoon after they are ripe, or in the ſpring. When the plants are come up, the weakeſt ſhould be drawn out, leaving the others at two feet diſtance from each other. Here they may ſtand without further trouble than weeding, until they have flowered and perfected their ſeeds, which, if permitted to ſcatter, will grow and produce plants enough for a ſucceſſion. Theſe plants bear removing well; ſo that when the thinning in the ſeed-bed is made, the drawn-out plants may be given away, or occupy ſome other part of the garden.

Titles. Hispanica. This ſpecies is titled, *Crambe foliis cauleque ſcabris.* In the *Hortus Cliffort.* it is termed, *Crambe foliis ſubcordatis crenatis ſcabris.* Cornutus calls it, *Rapiſtrum maximum rotundifolium monoſpermum.* It grows naturally in Spain.

CHAP. CXII.

CRANIOLARIA.

THIS genus at preſent conſiſts of two ſpecies, one of which is an Annual, called, Annual *Craniolaria.*

The plant deſcribed. The ſtalk is viſcous, ſends out viſcous hairy branches by pairs oppoſite, and grows to about two feet high. The leaves are heart-ſhaped, angular, lobed in the manner of the Maple, pointed, clammy to the touch, and grow oppoſite to each other on very long footſtalks. The flowers come out from the ends and ſides of the branches on ſhort footſtalks; they are of a white colour, have extremely long tubes, and large inflated cups; they appear in July, and the ſeeds ripen in the autumn.

Method of propagation. This plant is propagated by ſowing the ſeeds on a hotbed early in the ſpring. When the plants come up, the greateſt care muſt be to let them have a ſufficient quantity of air, to prevent their drawing up weak, and yet not ſo much as to deſtroy them; of which there will be great danger, they being very tender in that early ſtate. When they are about four inches high, they muſt be planted ſeparately in pots filled with very rich, light earth, and plunged into a hotbed of tanner's bark. They muſt be watered and kept ſhaded until they have taken root; after that they muſt have more air, but muſt not yet be ſet abroad; therefore they muſt conſtantly remain in the bed, raiſing the glaſſes as they advance in height, affording them free air on all favourable occaſions, granting them conſtant ſupplies of water, as you find it neceſſary, and they will then flower ſtrong, and perfect their ſeeds; the maturity of which is known by their falling off, and the dividing of the coriaceous covers for their diſcharge.

Titles. Annua. This ſpecies is titled, *Craniolaria foliis cordatis angulatis lobatis.* Houſtoun calls it, *Martynia annua, villoſa & viſcoſa aceris folio, flore albo, tubo longiſſimo.* It grows naturally in New Spain.

Claſs and order in the Linnæan Syſtem. *Craniolaria* is of the claſs and order *Didynamia Angioſpermia*; and the characters are,

The characters.

1. Calyx is double. The lower perianthium is compoſed of four narrow, ſhort, patulous, permanent leaves. The upper perianthium is large, oval, inflated, and cut longitudinally on one ſide.

2. Corolla is one unequal petal. The tube is extremely long and narrow. The limb is plane and bilabiated. The upper lip is roundiſh and entire. The lower lip is cut into three roundiſh ſegments, the middle one being the broadeſt.

3. Stamina are four filaments the length of the tube of the corolla, of which two are a little ſhorter than the others, having ſimple antheræ.

4. Pistillum conſiſts of an oval germen, a filiforme ſtyle the length of the tube, and a thickiſh, obtuſe ſtigma.

5. Pericarpium is coriaceous, oval, acute at both ends, and formed of two valves.

6. Semen. The ſeed is a ligneous, depreſſed nut, pointed at both ends, marked on both ſides with three furrows, and opening in two parts.

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CHAP. CXIII.

CRASSULA, LESSER ORPINE, or LIVE-EVER.

Species.

Of this genus are,

1. Subulated *Craſſula.*
2. Centauroide *Craſſula.*
3. Dichotomous *Craſſula.*

Deſcription of SubulateS

1. Subulated *Craſſula.* The ſtalk is upright, herbaceous, and about a foot and a half high. The leaves are awl-ſhaped, taper, and ſpreading. The flowers are produced in umbels from the tops of the ſtalks; they are of a white colour, appear in July and Auguſt, and the ſeeds ripen in the autumn.

Centauroide,

2. Centauroide *Craſſula.* The ſtalk is herbaceous, round, and divides by pairs at the top. The leaves are heart-ſhaped, and ſit cloſe to the ſtalks. The flowers are produced from the upper parts of the plant on footſtalks, each of which ſupports one flower only; they appear in July and Auguſt, and the ſeeds ripen in the autumn.

and Dichotomous Craſſula.

3. Dichotomous *Craſſula.* The ſtalk is herbaceous, dichotomous, and about a foot and a half high. The leaves are oval, and ſpear-ſhaped. The flowers are produced ſingly on footſtalks, like the former; they are of a golden-yellow colour, appear in July and Auguſt, and the ſeeds ripen in the autumn.

Culture.

Theſe ſorts are raiſed by ſowing the ſeeds on a hotbed in the ſpring. When the plants come up, they muſt have as much air as the weather will permit, to prevent their drawing up weak, but they muſt be very ſparingly watered. When all danger from froſt is over, they muſt be taken up, with a good ball of earth to each root, and ſet in ſome warm part of the garden; in the ſummer they will flower, and, if the ſeaſon proves favourable, perfect their ſeeds.

Titles.

1. The firſt ſpecies is titled, *Craſſula caule herbaceo, foliis ſubulatis teretibus patentibus.* Herman calls it, *Sedum Africanum umbellatum album.* It grows naturally in Æthiopia.

Subula=
=ta.

2. The ſecond ſpecies is, *Craſſula caule herbaceo dichotomo, foliis cordatis ſeſſilibus, pedunculis unifloris.* Herman calls it, *Sedoides Africana annua centauroides.* It grows naturally in Æthiopia.

Centau=
=roides.

3. The third ſpecies is, *Craſſula caule herbaceo dichotomo, foliis ovato-lanceolatis, pedunculis unifloris.* Herman calls it, *Sedum Africanum annuum, centaurii minoris folio, flore aureo.* It grows naturally in Æthiopia.

Dicho=
=toma.

Claſs and order in the Linnæan Syſtem.

Craſſula is of the claſs and order *Pentandria Pentagynia*; and the characters are,

The characters.

1. Calyx is a tubular perianthium, compoſed of five ſpear-ſhaped, concave, erect, acute, permanent leaves.

2. Corolla is five petals. The ungues are long, narrow, ſtraight, connivent, and connected at the baſe. The bracteæ of the limb are oval, ſpreading, and reflexed.

There are five nectariums, each being a ſmall, emarginated ſquamula, annexed to the outſide of the baſe of the germen.

3. Stamina are five awl-ſhaped filaments the length of the tube, and inſerted in the ungues of the petals, having ſimple antheræ.

4. Pistillum conſiſts of five oblong, acuminated germens, with awl-ſhaped ſtyles the length of the ſtamina, and obtuſe ſtigmas.

5. Pericarpium conſiſts of five oblong, acuminated, ſtraight, compreſſed capſules, opening lengthways on the inner ſide.

6. Semina. The ſeeds are many, and ſmall.

CHAP. CXIV.

CREPIS, BASTARD HAWKWEED.

THERE are two very well-known Annuals of this genus, one with red flowers, and the other with yellow; of the red there is only one ſpecies, of the yellow ſeveral; but thoſe with the brighteſt colours and dark bottoms are the beſt. Theſe alſo admit of many varieties; ſo that they are a great ornament to our gardens late in the autumn, as they are not of ſo tender a contexture as to ſink under the firſt approaches of cold weather; for I have ſeen very pretty flowers gathered from theſe plants, when the winter has been mild and open, in December, which has been eſteemed a great novelty, as well as ornament to the flower-pots in our rooms at that ſeaſon. Beſides theſe there are other ſorts, that are very pretty; ſo that under this head I ſhall arrange,

Species.

1. White Baſtard Hawkweed.
2. Red Baſtard Hawkweed.
3. Yellow and Purple Baſtard Hawkweed.
4. Common Succory-leaved Baſtard Hawkweed.
5. Italian Small Yellow Hawkweed.
6. Pyramidical Cupp'd Hawkweed.
7. Stinking Hawkweed.
8. *Hieracium Maximum*, Greateſt Hawkweed, or Rough Succory Hawkweed.
9. Smooth Succory Hawkweed.

Deſcription of the White Baſtard,

1. White Baſtard Hawkweed is an Annual about a foot and a half high. The leaves are of an oblong figure, ſharp-pointed, rough, hairy, embrace the ſtalk with their baſe, and the upper part of the lower leaves is ſlightly indented; but the leaves which grow higher on the ſtalks are indented on the lower part, whilſt the upper is entire. The ſtalk is erect, firm, and divides into a few branches, which are terminated by the flowers; their colour is white; they will be in blow in June, and the ſeeds ripen in Auguſt.

Red Baſtard,

2. Red Baſtard Hawkweed. This plant is about a foot and a half high. The leaves are ſpear-ſhaped, and ſinuated in the manner of Dandelion. The flower-ſtalk divides into many branches, and is garniſhed with oblong, runcinated leaves, which embrace the ſtalk with their baſe. Each of them is terminated by one compound flower; it is large, of an agreeable red colour, and looks very beautiful; it will be in blow in June, July, and Auguſt, and afford plenty of ſeeds for a ſucceſſion.

and Yellow and Purple Baſtard Hawkweed.

3. Yellow and Purple Baſtard Hawkweed. The leaves are ſpear-ſhaped, and their edges are indented. The ſtalk is branching, and will grow to about a foot and a half in height; it is garniſhed with ſmall leaves, which ſit cloſe to the branches. The flowers are produced from the ends; they are compound; the floſcules are diſpoſed in a regular manner; the outer ones are of a bright-yellow colour, but thoſe in the center of a black-purple; they will be in blow in June and July, and their ſeeds ripen in September.

Varieties

Of this ſpecies there are two or three varieties with reſpect to the colouring of the flowers.

Common Succory-leaved Baſtard Hawkweed deſcribed.

4. Common Succory-leaved Baſtard Hawkweed. This riſes with a ſlender, angular, branching ſtalk, to the height of about a foot. The radical leaves are lyre-ſhaped, ſmooth, and indented like thoſe of Endive; thoſe on the ſtalks are ſpear-ſhaped, narrow, and embrace the ſtalks with their baſe. The flowers are produced ſingly from the ends of the branches, or rather they grow ſingly on long, naked, round footſtalks; their colour is yellow, with purple in the center; they will be in blow in July, and ripen their ſeeds in the autumn.

Varieties

Of this ſpecies there are two or three varieties reſpecting the colouring.

Italian Small Yellow,

5. Italian Small Yellow Hawkweed. This plant will grow with an erect, branching ſtalk, about a foot and a half high. The radical leaves are ſpear-ſhaped, ſmooth, obtuſe, their edges largely indented, and of an elegant-green colour; thoſe on the ſtalks are ſpear-ſhaped, ſmall, acute, entire, and half ſurround the ſtalk with their baſe. The flowers are produced from the ends of the ſtalks; they are ſmall, and of a yellow colour; they will be in blow in July, and ripen their ſeeds in the autumn.

Pyramidical Cupp'd,

6. Pyramidical Cupp'd Hawkweed. This hath a channelled, branching ſtalk, which will grow to about a foot and a half high. The leaves are ſagittated, hairy, and their edges are indented. The footſtalks of the flowers are long, and ſmall upwards. The flowers are ſmall; they will be in blow in July, and ripen their ſeeds in September.

Stinking,

7. Stinking Hawkweed. This plant will grow to about a foot high. The radical leaves are long, narrow, and jagged or indented in ſuch a manner as to form the appearance of a winged leaf. The ſtalks are three or four in number from the ſame root, and each divides into two or three ſmaller branches; the lower parts are garniſhed with leaves of the ſame form with the radical ones; the ſmaller and upper parts are naked; each ſtalk is crowned by a ſingle flower; it is of a gold-copper colour, and very beautiful; it flowers in June, and the ſeeds ripen in September.

This is a Biennial plant, and has the ſcent of Bitter Almonds.

Greateſt,

8. *Hieracium Maximum*, Greateſt Hawkweed, or Rough Succory Hawkweed. This is a tall-growing plant. The ſtalk is rough, angular, upright, branching, and will grow to about four or five feet high. The leaves are lyre-ſhaped, rough, and indented in ſuch a manner as to form a pinnatifid leaf. The ſtalk is garniſhed with leaves of the like ſhape with the radical ones, though ſmaller. A ſingle flower terminates each ſtalk; it is entirely yellow; it will be in blow in June and July, and produce good ſeeds in September.

This alſo is a Biennial plant.

and Smooth Succory Hawkweed deſcribed.

9. Smooth Succory Hawkweed. The ſtalks

are ſlender, ſmooth, and divide into a few branches, which grow erect. The leaves are long, ſpear ſhaped, runcinated, ſmooth, and grow ſingly at the joints with a long footſtalk. The flowers come out from the ends and ſides of the branches on their own ſeparate footſtalks; they are ſmall, and of a yellow colour; they appear in June and July, and the ſeeds ripen ſoon after the flowers are fallen.

Culture. The ſeventh and eighth ſorts are beſt propagated by ſowing the ſeeds, in April, in the places where they are to remain; for the ſeventh ſtrikes with a thick kind of tap root deep into the ground, and the other ſeldom grows ſo tall after removing. They will then require no other trouble than thinning them, and keeping them clean from weeds; and the ſummer following they will flower in June, and produce plenty of ſeeds for a ſucceſſion.

The beſt time for ſowing all the other ſorts is the autumn, ſoon after the ſeeds are ripe, and they will flower in June or July following. But in order to have them late, let a crop be ſown in April, and theſe will flower in Auguſt and September, and many of them will continue flowering until the froſt deſtroys them.

Almoſt any ſoil or ſituation will do for them, though they thrive beſt in a good, light, garden mould; and in ſuch they will ſcatter their ſeeds, which will come up, and continue the ſucceſſion without any other trouble than thinning them to proper diſtances.

Titles. 1. White Baſtard Hawkweed is titled, *Crepis foliis amplexicaulibus oblongis acuminatis: inferioribus ſupernè, ſummis infernè denticulatis.* Vaillant calls it, *Hieracioides annua, endiviæ folio, capite magno*; Tournefort, *Hieracium Alpinum, ſcorzoneræ folio*; and Gmelin, *Leontodon calyce toto erecto: inferiore ſquamis ſiccis foliis amplexicaulibus.* It grows naturally on the Alps of Italy. Alpina.

Rubra. 2. Red Baſtard Hawkweed is, *Crepis foliis amplexicaulibus lyrato-runcinatis.* In the *Hortus Cliff.* it is termed, *Hieracium foliis caulinis ſinuatis, calycibus ante floreſcentiam nutantibus.* Columna calls it, *Hieracium Apulum, flore ſuavè rubente*; and Caſpar Bauhine, *Hieracium intybaceum, floribus ex purpurâ rubentibus.* It grows naturally in Apulia.

Barbata. 3. Yellow and Purple Baſtard Hawkweed is, *Crepis involucris calyce longioribus: ſquamis ſetaceis ſparſis.* Caſpar Bauhine calls it, *Hieracium proliferum falcatum*; and Columna, *Hieracium calyce barbato.* It grows naturally in Italy, Sicily, and France.

Dioscoridis. 4. Common Succory-leaved Baſtard Hawkweed is, *Crepis foliis radicalibus runcinatis, caulinis haſtatis, calycibus ſubtomentoſis.* Vaillant calls it, *Hieracioides vulgaris annua, cichorii folio, flore luteo ſubtus purpuraſcente*; Caſpar Bauhine, *Hieracium majus erectum anguſtifolium, caule lævi*; and Tabernæmontanus, ſimply, *Hieracium.* It grows naturally in France.

5. Italian Small Yellow Hawkweed is, *Crepis foliis runcinatis, glabris amplexicaulibus, calycibus ſubtomentoſis.* In the former edition of the *Species Plantarum* it is termed, *Lapſana capillaris.* Caſpar Bauhine calls it, *Hieracium minus glabrum, foliis eleganter virentibus*; Tournefort, *Hieracium dentis leonis folio hirſutum, flore luteo extus purpuraſcente.* It grows naturally in Italy. Virens.

6. Pyramidical Cupp'd Hawkweed is, *Crepis foliis ſagittatis dentatis, caule paniculato, calycibus pyramidatis glabris.* Tournefort calls it, *Chondrilla hieracii folio, annua*; John Bauhine, *Hieracium pulchrum*; Caſpar Bauhine, *Hieracium montanum hirſutum minus*; Vaillant, *Hieracicides annua glutinoſa, floribus parvis*; Columna, *Hieracium montanum alterum leptomacrocaulon*; and Moriſon, *Hieracium annuum montanum, caule canaliculato.* It grows naturally in France and Italy. Pulchra.

7. Stinking Hawkweed is, *Crepis foliis runcinato-pinnatis hirtis, petiolis dentatis.* Moriſon calls it, *Hieracium luteum, cichorii ſylveſtris folio amygdalas amaras olens*; Ray, *Hieracium caſtorii odore Monſpelienſium*; Tournefort, *Hieracium orientale altiſſimum, folio cichorii ſylveſtris, odore, caſtorii, flore magno*; Moriſon, *Jacobæa ſylvatica tomentoſa, cichorii ſylveſtris folio*; Caſpar Bauhine, *Senicio hirſutus*; and Dodonæus, *Erigeron tertium.* It grows naturally in France and Auſtria. Fœtida.

8. *Hieracium Maximum*, Rough Succory Hawkweed, or Greateſt Hawkweed is, *Crepis foliis runcinato-pinnatifidis ſcabris: baſi ſupernè dentatis, calycibus muricatis.* Caſpar Bauhine calls it, *Hieracium maximum, chondrillæ folio, aſperum*; John Bauhine, *Hieracium erucæ folio, hirſutum*; Vaillant, *Hieracioides altiſſima annua, chondrillæ folio, flore utrinque luteo*; Haller, *Hieracioides foliis variis ſubaſperis, caule altiſſimo folioſo unifloro.* It grows naturally in the meadows in many parts of Europe. Biennis.

9. Smooth Succory Hawkweed is, *Crepis foliis lanceolato-runcinatis ſeſſilibus lævibus: inferioribus dentatis, caule glabro.* In the *Flora Lapp.* it is termed, *Hieracium foliis radicalibus pinnato-dentatis, caulinis lanceolatis ſubdenticulatis.* Caſpar Bauhine calls it, *Cichoreum pratenſe luteum lævius*; John Bauhine, *Hieracium luteum glabrum, ſive minus hirſutum*; Gerard, *Hieracium aphacoides*; and Petiver, *Dens leonis ramoſus glaber.* It grows naturally in dry, ſterile places, and old walls and buildings, in England, and moſt parts of Europe. Tectorum.

CHAP. CXV.

CRITHMUM, SAMPHIRE.

THE ſhort-lived ſpecies of this genus is uſually called Biennial Samphire, or Pyrenean Parſley.

The plant deſcribed. The radical leaves are large, and compoſed of many narrow ſegments, which ſpread themſelves on the ground. The ſtalk is upright, branching, grows to a foot and a half high, and the leaves with which it is ornamented are doubly trifid. The flowers come out from the tops of the ſtalks in round umbels; their colour is white; they come out in June, and the ſeeds ripen in the autumn.

Culture. This plant is propagated by ſowing the ſeeds the latter end of the ſpring, in the places where they are to remain. When they come up, the weakeſt ſhould be drawn out, leaving the others at a foot or a foot and a half aſunder. All ſummer they muſt be kept clean from weeds, watered in dry weather, and the ſummer following they will flower, and perfect their ſeeds, ſoon after which the plants die.

Titles. Pyrenaicum. This ſpecies is titled, *Crithmum foliolis lateralibus biſtrifidis.* Tournefort calls it, *Apium Pyrenaicum, thapſiæ facie.* It grows naturally on the Pyrenees.

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CHAP. CXVI.

CROTALARIA.

Species. THE Annuals of this genus are,

1. Aſiatic *Crotalaria.*
2. Chineſe Herbaceous *Crotalaria.*
3. Indian Retuſe *Crotalaria.*
4. Bengal *Crotalaria.*
5. Braſilian *Crotalaria.*
6. Carolina Perfoliate *Crotalaria.*
7. Cape Perfoliate *Crotalaria.*
8. Broad-leaved Jamaica *Crotalaria.*
9. *Laburnum*-leaved *Crotalaria.*
10. Hoary *Crotalaria.*

Deſcription of the Aſiatic, 1. Aſiatic *Crotalaria.* The ſtalks are herbaceous, branching, four-cornered, and grow to about two feet high. The leaves are oval, verrucoſe, of a pale-green colour, and have very ſhort footſtalks. The flowers are produced in ſpikes from the ends of the branches; they are papilionaceous, and of a light-blue colour; they come out in July and Auguſt, and are ſucceeded by ſhort, turgid pods, containing ripe ſeeds, in the autumn.

Chineſe Herbaceous, 2. Chineſe Herbaceous *Crotalaria.* The ſtalk is erect, taper, branching a little, and about a foot high. The leaves are ſimple, ſpear-ſhaped, ſmooth on the ſurface, hairy underneath, and grow on very ſhort footſtalks. The flowers are blue, and come out from the wings of the leaves, ſitting cloſe, without any footſtalks; they appear in July and Auguſt, and are ſucceeded by ſhort pods, containing ripe ſeeds, in the autumn.

Indian Retuſe, 3. Indian Retuſe *Crotalaria.* The ſtalk of this plant is herbaceous, branching, and about three feet high. The leaves are oblong, wedge-ſhaped, retuſe, ſmooth, and of a pale-green colour. The flowers are produced in ſpikes at the ends of the branches; they are moderately large, and of a yellow colour; they appear in July and Auguſt, and the ſeeds ripen in the autumn.

Bengal, 4. Bengal *Crotalaria.* The ſtalk is herbaceous, upright, and ſtriated. The leaves are ſimple, ſpear-ſhaped, hairy, and grow on very ſhort footſtalks. The flowers adorn the tops of the ſtalks in July and Auguſt, and the ſeeds ripen in the autumn.

and Braſilian Crotalaria 5. Braſilian *Crotalaria.* The ſtalks are herbaceous, winged, compreſſed, branching, and two or three feet high. The leaves are ſimple, ſpear-ſhaped, hairy, and grow ſingly on footſtalks, which have membranes or wings running from their baſe down the ſtalk. The flowers are produced in looſe ſpikes from the ends of the branches; they are of a pale-yellow colour, having a long vexillum; they appear in July and Auguſt, and are ſucceeded by ſhort, turgid, blue-coloured pods, containing ripe ſeeds, in the autumn.

Variety. There is a variety of this ſpecies with long, ſmooth leaves.

Carolina, Perfoliate Crotalaria deſcribed. 6. Carolina Perfoliate *Crotalaria.* The ſtalks are round, ſhrubby, branching, and four or five feet high. The leaves are heart-ſhaped, oval, ſmooth, and ſurround the ſtalk as if they were run through by it. The flowers are produced ſingly from the wings of the leaves without any footſtalks; they are of a pale-yellow colour, and appear in Auguſt.

Deſcription of Cape Perfoliate

7. Cape Perfoliate *Crotalaria.* The ſtalks are robuſt, upright, and of a light-green colour. The leaves are oval, have a rough border, and appear as if perforated by the ſtalks. The flowers are produced from the wings of the leaves in Auguſt, and with good management the ſeeds may be made to ripen in the autumn.

Broad-leaved Jamaica,

8. Broad-leaved Jamaica *Crotalaria.* The ſtalks are ſhrubby, branching, and four or five feet high. The leaves are broad, ſmooth, and each of them is compoſed of three folioles. The flowers are produced from the ſides of the branches in ſhort ſpikes, are ſmall, variegated, appear in Auguſt, and the ſeeds may be brought to maturity in October.

Laburnum-leaved,

9. *Laburnum*-leaved *Crotalaria.* The ſtalks are ſhrubby, and about four feet high. The leaves are trifoliate, each being compoſed of three oval, acute folioles, and the whole leaf has much the appearance of thoſe of *Laburnum.* The flowers are large, and of a fine yellow colour; and they appear, and the ſeeds ripen, about the ſame time with the former.

and Hoary Crotalaria.

10. Hoary *Crotalaria.* The ſtalks are woody, tough, hairy, and hoary. The leaves are very broad, and each is compoſed of three oval, roundiſh, acuminated folioles. The flowers grow in ſpikes at the ends of the branches, are of a greeniſh-yellow colour, come out in Auguſt, and are ſucceeded by ſhort, turgid, whitiſh, hairy pods.

Method of propagation.

The plants are all propagated by ſowing of the ſeeds in pots, filled with light, rich earth, in the ſpring. The pots ſhould be then plunged up to the rims in the mould of a hot-bed. When the plants come up, the weakeſt ſhould be drawn out, leaving one only in each pot. A due admiſſion of air muſt be granted them, and they muſt be now and then refreſhed with water; and by ſuch time as the heat of the bed abates, the plants will require to be ſhifted into larger pots. When this is done, they ſhould be immediately plunged up to the rims in a ſecond hot-bed. Here they muſt be ſhaded in the heat of the day, the glaſſes regularly raiſed to let in the air, and the plants duly watered, and they will advance by degrees towards flowering. When the heat of this bed is abated, it ſhould be lined with freſh dung, to bring a ſecond fermentation. The firſt five ſpecies muſt by degrees be hardened to the open air; and when this is effected, they may be turned out of the pots into the open ground. Moſt of them will flower in July, and continue the ſucceſſion for ſix weeks, or more; and the ſeeds will ripen regularly in the autumn.

The laſt five ſpecies may alſo be treated in the ſame way; but they will flower later, and hardly ever perfect their ſeeds: So that theſe ſpecies ſhould either have the benefit of a third hot-bed, and uſing proper frames to raiſe the glaſſes as they advance in height; or they ſhould be removed into the ſtove; in either of which places they will flower, and for the moſt part perfect their ſeeds.

Titles.

Verrucosa.

1. Aſiatic *Crotalaria* is titled, *Crotolaria foliis ſimplicibus ovatis, ſtipulis lunatis declinatis, ramis tetragonis.* In the *Hortus Cliffort.* it is termed; *Crotalaria foliis ovatis, petiolis duplici ſtipulâ auctis, ramis tetragonis.* Burman calls it, *Crotalaria foliis ſolitariis ovatis acutis, caule ſulcato*; and Herman, *Crotalaria Aſiatica, folio ſingulari verrucoſo, floribus cæruleis.* It grows naturally in India.

Sessifolia.

2. Chineſe Herbaceous *Crotalaria* is titled, *Crotalaria foliis ſimplicibus lanceolatis ſubſeſſilibus, floribus ſeſſilibus lateralibus, caule æquali.* It grows naturally in China.

Retusa.

3. Indian Retuſe *Crotalaria* is, *Crotalaria foliis ſimplicibus oblongis cuneiformibus retuſis.* Herman calls it, *Crotalaria Aſiatica, floribus luteis, folio ſingulari cordiformi*; and Rhumphius, *Crotalaria major.* It grows naturally in India.

Juncea.

4. *Crotalaria* of Bengal is, *Crotalaria foliis ſimplicibus lanceolatis petiolato-ſeſſilibus, caule ſtriato.* Plukenet calls it, *Crotalaria Benghalenſis, foliis geniſtæ hirſutis.* It grows naturally in India.

Sagittalis.

5. Braſilian *Crotalaria* is, *Crotalaria foliis ſimplicibus lanceolatis, ſtipulis ſolitariis decurrentibus bidentatis.* Martin calls it, *Crotalaria Americana, caule alato, foliis piloſis, floribus in thyrſo luteis*; Hermān, *Crotalaria hirſuta minor Americana herbacea, caule ad ſummum ſagittatò*; and Plukenet, *Crotalaria ſagittalis glabra, longioribus foliis, Americana.* It is a native of Braſil and Virginia.

Perfoliata.

6. Carolina Perfoliate *Crotalaria* is, *Crotalaria foliis perfoliatis cordato-ovatis.* Dillenius calls it, *Crotalaria perfoliatæ folio.* It grows common in Carolina.

Perforata.

7. Cape Perfoliate *Crotalaria* is, *Crotalaria foliis perfoliatis ovatis margine ſcabris.* It grows naturally at the Cape.

Latifolia.

8. Broad-leaved *Crotalaria* of Jamaica is titled, *Crotalaria foliis ternatis obovatis, floribus lateralibus ſubracemoſis.* Dillenius calls it. *Crotalaria loti folio, flore parvo variegato*; and Sloane, *Crotalaria trifolia fruticoſa, foliis glabris, flore è luteo viridi minore.* It inhabits Jamaica.

Laburnifolia.

9. *Laburnum*-leaved *Crotalaria* is, *Crotalaria foliis ternatis ovatis acuminatis, ſtipulis nullis, leguminibus pedicillatis.* Herman calls it, *Crotalaria Aſiatica fruteſcens, floribus luteis amplis, trifolia.* It grows naturally in Aſia.

Incana.

10. Hoary *Crotalaria* is, *Crotalaria foliis ternatis acuminatis, ſtipulis ſetaceis, leguminibus hirſutis.* In the *Hortus Cliffort.* it is termed *Crotalaria foliis ternatis petiolis nudis.* Sloane calls it, *Crotalaria trifolia fruticoſa, foliis rotundis incanis, floribus ſpicatis è viridi luteis, fructu pubeſcente.* It grows naturally in Jamaica, the Caribbees, and Aſia.

CHAP. CXVII.

CROTON.

Species.

OF this genus there are,
1. Marſh Baſtard *Ricinus.*
2. Turnſol Plant.
3. Silvery *Croton.*
4. American *Ricinocarpos.*
5. Lobated *Croton.*

Deſcription of Marſh Baſtard Ricinus.

1. Marſh Baſtard *Ricinus.* The ſtalks of this ſpecies are herbaceous, flat, and two or three feet high. The leaves are oval, ſpear-ſhaped, plicated, ſerrated, and rough. The flowers grow from the wings of the leaves in ſhort, looſe ſpikes, are herbaceous, and of little beauty: There will be both male and female on the ſame plant, and the general characters indicate their ſtructure: They come out in July, and are ſucceeded by roundiſh, prickly capſules, containing the ſeeds.

The Turnſol Plant deſcribed.

2. Turnſol Plant. The ſtalk is round, herbaceous, branching, and hardly a foot high. The leaves are for the moſt part rhomboidal, though ſome of them will be oval; they are rough, bend backward, and grow on long, ſlender footſtalks. The flowers come out in ſhort ſpikes from the ſides and ends of the branches. The male flowers are ſmall, yellowiſh, and occupy the upper part of the ſpikes; and the females are below. They come out in July, and are ſucceeded by three-lobed, roundiſh capſules, which rarely exhibit ripe ſeeds in our gardens.

Uſes of it.

The Turnſol, ſo uſeful in dying, painting, ſtaining of wines, jellies, &c. is prepared from this plant, for which purpoſe it is cultivated in great plenty in the South of France. It is the juice of the fruit, when freſh, that affords the dye. If it is rubbed on cloaths, it at firſt gives them a good green colour, which ſoon changes to a fine blue; and if the cloaths are dipped in water and wrung, they become of a fair claret colour.

Silvery Croton deſcribed.

3. Silvery *Croton.* The ſtalk is herbaceous, hoary, branching near the top, and grows to about a foot and a half high. The leaves are heart-ſhaped, oval, downy, undivided, ſlightly ſerrated, and grow on long, hairy footſtalks. The flowers grow in cluſters at the ends and upper parts of the branches, are of a whitiſh-green colour, ſmall, come out in July, and the ſeeds ripen in September.

American Ricinocarpos deſcribed.

4. American *Ricinocarpos.* The ſtalk is herbaceous, hardly a foot high, and ſends forth branches alternately from the ſides. The leaves are nearly heart-ſhaped, have their edges indented, and grow alternately on ſhort footſtalks. A few male and female flowers are collected together in ſmall heads growing on long footſtalks, which come out from the ſides of the branches, oppoſite to the leaves; they are of a whitiſh colour, appear in July, and the ſeeds ripen in the autumn.

Lobated Croton deſcribed.

5. Lobated *Croton.* The ſtalk is herbaceous, taper, branching, and about a foot and a half high. The leaves for the moſt part grow oppoſite on long footſtalks, are ſmooth, ſerrated, and the lower ones are deeply cut into five lobes, but thoſe which occupy the upper part of the plant are only three. The flowers come out in looſe ſpikes from the ends of the branches; they are ſmall, of a whitiſh-green colour, appear in July, and are ſucceeded by oblong, three-lobed capſules, containing the ſeeds.

Culture of the ſecond ſpecies.

The ſecond ſpecies, called the Turnſol Plant, is propagated by ſowing the ſeeds in a bed of light earth in the ſpring. When the plants come up, the weakeſt muſt be drawn out, leaving the others at about ſix inches aſunder. They muſt be kept clean from weeds all ſummer, and in July they will flower; and if a dry, warm autumn happens, the ſeeds will ripen very well.

Culture of the other ſpecies.

The other ſpecies muſt be raiſed on a hot-bed, in the manner of the preceding ſpecies of *Crotalaria*; to which, to avoid repetition, the reader is referred.

Titles.

1. Marſh Baſtard *Ricinus* is titled, *Croton foliis ovato-lanceolatis plicatis ſerratis ſcabris.* Martin calls it, *Ricinoides paluſtre, foliis oblongis ſerratis, fructu hiſpido.* It is a native of La Vera Cruz, growing there chiefly in low, marſhy grounds. Paluſtre.

2. The Turnſol Plant is, *Croton foliis rhombeis repandis, capſulis pendulis, caule herbaceo.* Van Royen calls it, *Croton foliis ovatis plicatis ſcabris, capſulis è pediculo ramoſo pendulis*; Tournefort, *Ricinoides ex quâ paratur tourneſol Gallorum*; and Caſpar Bauhine, *Heliotropium tricoccum.* It grows naturally near Montpelier. Tinctorium.

3. Silvery *Croton* is, *Croton foliis cordato-ovatis ſubtus tomentoſis integris ſubſerratis.* It grows naturally in America. Argenteum.

4. American *Ricinocarpos* is, *Croton foliis ſubcordatis crenatis, pedunculis racemoſis oppoſiti-foliis, caule herbaceo.* Van Royen calls it, *Mercurialis androgyna*; Boerhaave, *Ricinocarpos Americana, flore albo ſpicato, folio circeæ acutiori.* It is a native of Surinam. Ricinocarpos.

5. Lobated *Croton* is, *Croton foliis inermi-ſerratis, inferioribus quinquelobis, ſuperioribus trilobis.* Martin calls it, *Ricinoides herbaceum, foliis trifidis ſ. quinquefidis & ſerratis.* It inhabits La Vera Cruz. Lobatum.

Claſs and order in the Linnæan ſyſtem.

Croton is of the claſs and order *Monoecia Monodelphia*; and the characters are,

The characters.

I. Male Flowers.

1. CALYX is a perianthium compoſed of five oval, oblong, erect leaves.

2. COROLLA conſiſts of five oblong, obtuſe petals, about the ſize of the leaves of the calyx.

There are five ſmall, nectarious glands affixed to the receptacle.

3. STAMINA are ten or fifteen filaments the length of the flower; they join at their baſe, and have roundiſh, didymous antheræ.

II. Female Flowers.

1. Calyx is a perianthium, as in the Males.

2. Corolla. The ſame as the Males; but ſome of the glands are very ſmall.

3. Pistillum conſiſts of a roundiſh germen, three reflexed, patent ſtyles the length of the flower, and the like number of reflexed, bifid ſtigmas.

4. Pericarpium is a roundiſh, trilobate, trilocular capſule.

5. Semen. The ſeed is ſingle, oval, and large.

CHAP. CXVIII.

CRUCIANELLA, PETTY MADDER.

Species. THE Annuals of this genus are,

1. Narrow-leaved Petty Madder.
2. Broad-leaved Petty Madder.
3. Spaniſh Petty Madder.

Deſcription of Narrow-leaved, 1. Narrow-leaved Petty Madder. The ſtalks are erect, ſquare, rough, jointed, and ſend forth branches oppoſite to each other at the joints. The leaves are narrow, rough, and ſix uſually grow together at a joint, where they ſurround the ſtalk. The flowers come out from the ends and ſides of the branches in cloſe ſpikes, are ſmall, white, come out in June and July, and the ſeeds ripen in the autumn.

Broad-leaved, 2. Broad-leaved Petty Madder. The ſtalks are ſquare, a little hairy, and lie on the ground. The leaves are ſpear-ſhaped, and four of them ſtand at each joint, ſurrounding the ſtalk in a radiated manner. The flowers come out from the ends of the branches in long ſpikes; they are ſmall, greeniſh, come out in June and July, and the ſeeds ripen in the autumn.

and Spaniſh Petty Madder. 3. Spaniſh Petty Madder. The ſtalks put forth numerous ſlender branches, which ſpread themſelves all around. The leaves grow in whorls, uſually ſix together at a joint. The flowers come out from the ſides of the branches, but are ſmall, and of little ſhow; they appear in June and July, and the ſeeds ripen in the autumn.

Method of propagating them. Theſe Annuals are all raiſed by ſowing of the ſeeds in a bed of common garden-mould made fine, either in the autumn ſoon after they are ripe, or in the ſpring. Where the plants come up too cloſe, they muſt be thinned, leaving the ſtrongeſt about a foot diſtance from each other. All ſummer they muſt be kept clean from weeds; and if they are watered in dry weather, they will be the better for it. In June or July they will ſhew their flowers, and early in the autumn the ſeeds will be ripe, which, if they are permitted to ſcatter, will grow, and produce plants enough for a ſucceſſion.

Titles. 1. Narrow-leaved Petty Madder is titled, *Crucianella erecta, foliis ſenis linearibus, floribus ſpicatis.* In the *Hortus Cliffort.* it is termed, *Crucianella foliis linearibus.* Caſpar Bauhine calls it, *Rubia anguſtifolia ſpicata.* It grows naturally near Montpelier. Angusti-folia.

2. Broad-leaved Petty Madder is, *Crucianella procumbens, foliis quaternis lanceolatis, floribus ſpicatis.* In the *Hortus Cliffort.* it is termed, *Crucianella foliis lanceolatis.* Caſpar Bauhine calls it, *Rubia latifolia ſpicata.* It grows naturally in Crete, and near Montpelier in France. Latifolia.

3. Spaniſh Petty Madder is titled, *Crucianella diffuſa, foliis ſenis, floribus ſparſis.* It grows common in Spain. Patula.

CHAP. CXIX.

CUCUMIS, CUCUMBER.

BESIDES the Cucumber and the Melon of our kitchen-gardens, there are ſometimes raiſed, chiefly for curioſity and medicinal uſes,

Species.

1. Colocynth.
2. Dwarf Arabian Colocynth.
3. *Anguria.*
4. Long Indian Cucumber.
5. Oriental Cucumber, or Dudaim.
6. *Chate*, or Round-leaved Ægyptian Cucumber.
7. Indian Long-fruited Cucumber.
8. Indian Small-fruited Cucumber.

Colocynth deſcribed.

1. Colocynth. The ſtalks are rough, procumbent, ſtriated, and extend themſelves to a conſiderable length. The leaves are divided into a multitude of ſegments, are large, rough, hairy, and grow ſingly from the joints on long footſtalks. The flowers are regarded the leaſt of any thing in this genus; they conſiſt of male and female in the ſame plant, and are moſtly yellow, though they are ſometimes white. Of this ſpecies they are pretty large, and are ſucceeded by round, ſmooth fruit, about the ſize of a large Orange, and of a yellowiſh colour when ripe, the pulp of which is the Colocynth of the Shops.

Dwarf Arabian Colocynth deſcribed.

2. Dwarf Arabian Colocynth. The ſtalks of this ſpecies are much weaker than thoſe of the former. The leaves are heart-ſhaped, and compoſed of five indented, obtuſe lobes. The fruit is round, ſtriated, and prickly.

Anguria deſcribed.

3. *Anguria.* The ſtalks are angular, ſlender, and hiſpid. The leaves are palmated, deeply ſinuated, and hairy. The fruit is round and echinated.

Deſcription of Long Indian

4. Long Indian Cucumber. The ſtalks are five-cornered, and extend themſelves to a great length. The leaves are heart-ſhaped, roundiſh, acutely angulated, and indented. The flowers grow ſeveral together on a footſtalk, are of a yellow colour, and are ſucceeded by oblong, angular, compreſſed fruit.

and Oriental Cucumber.

5. Oriental Cucumber. The ſtalks are rough, weak, and procumbent like the Gourds. The leaves are angular, rounded, and grow from the joints on moderately long footſtalks. The flowers are not inconſiderable; but the fruit is the chief excellence of this plant, which is about the ſize of an Orange, and poſſeſſed of a moſt grateful odour.

Chate deſcribed.

6. *Chate.* The ſtalks are procumbent like the Gourds, hairy, and five-cornered. The leaves are hairy, roundiſh, angular, and indented. The fruit is fuſiforme, ventricoſe, beſet with white, erect, prickly hairs, and is beaked at both ends.

Deſcription of Indian Long-fruited

7. Indian Long-fruited Cucumber. The ſtalks of this ſpecies extend themſelves to a good length where they have room to run. The leaves are large, lobated, and grow from the joints on longiſh footſtalks. The fruit is very long, of a cylindrical figure, and very ſmooth.

and Indian Small-fruited Cucumber.

8. Indian Small-fruited Cucumber. The ſtalks of this ſpecies run like the others. The leaves are heart-ſhaped, oblong, ſmooth, and indented. The fruit is round, ſmooth, and very ſmall.

Method of raiſing theſe ſpecies.

For the raiſing of all theſe ſpecies, let a good hot-bed be prepared by the laſt week in March. Cover it with five inches depth of mould, and in this plunge ſome ſmall pots up to the rims, filled with good, rich earth. The day after ſow the ſeeds in theſe pots, and let them be covered an inch deep. Two days after give them a ſmall ſprinkling of water. Raiſe the glaſſes every day, to let out the ſteam; and if you find your bed ſweats too violently, raiſe the pots a little, and make holes on the out-ſides of the bed; and when you find it is reduced to a right temperature, ſtop them up again with freſh dung. When the plants come up, they muſt have all poſſible air, and now-and-then a ſmall ſprinkling of water, which ſhould have been in the bed ſix hours at leaſt before. Watering, however, muſt be very ſparingly afforded them while young; and the ſtricteſt care muſt be obſerved in keeping your glaſſes clean, by wiping off all condenſed vapours with a woollen cloth, and turning them in the day-time; for if thoſe drops fall upon the plants, they will deſtroy them. With this management let them remain until they have got the third leaf, which is the time to remove them to their next lodging. This ſhould be an hot-bed like the former, though of greater length; for it ſhould be carried ſo as that it may be long enough to hold the quantity of plants that are to be raiſed. Let a ridge of good earth be made along the middle of each light a foot high, and let the other part of the bed be covered with three inches depth of mould. The next day ſet the plants along the ridges: Let them be ſhaken out of the pots with all care, that not a fibre be broken, and let the earth be cloſely preſſed to the roots. Give them a ſmall watering, and ſhade them with mats until they have taken root. When you find them in a growing ſtate, pull up the weakeſt, leaving only three or four of the beſt and moſt promiſing plants for each light. As they put forth runners, bring in freſh mould to the bed, adding it to the ridge; and continue ſo to do until the whole bed is covered with mould a foot thick. Direct the runners in their courſe, that they may not croſs or interfere with each other; place them at as equal diſtances from each other as poſſible, and peg them down to confine them to their places. When they have filled the lights, let a freſh hot-bed be made along each ſide of the bed, a yard or four feet wide, of the ſame height with it, and let it be covered with mould. This will quicken the heat of the former bed, and will cauſe the plants to flower and produce their fruit ſtrong. Having thus prepared this bed, raiſe up the frames with bricks, to let the runners out; and in a little time they will overſpread this bed. If the weather is cold, at firſt they ſhould be covered with mats in nights, and all along the plants ſhould have watering at times. When they are in flower, watering ſhould be more diligently attended to, which ſhould be done by ſprinkling the whole plants, and this in a moderate quantity at a time, for too much of it will cauſe their bloſſoms to drop off. Soon after they are in flower, the fruit will ſwell, and grow to perfection apace: The plants will afford a ſucceſſion for a long time; but it is from the firſt fruit only that the ſeeds are to be collected for a ſucceſſion.

Titles.

Colocynthis. 1. Colocynth is titled, *Cucumis foliis multifidis, pomis globoſis glabris.* Van Royen calls it, *Cucumis foliis multifidis*; Caſpar Bauhine, *Colocynthis, fructu rotundo, major*; and Cammerarius, *Colocynthis.* It is not known where this ſpecies grows naturally.

Prophetarum. 2. Dwarf Arabian Colocynth is, *Cucumis foliis cordatis quinquelobis denticulatis obtuſis, pomis globoſis ſpinoſo-muricatis.* Shaw calls it, *Colocynthis pumila echinata Arabica, ſtriis duodecim luteis & viridibus variegata.* It is a native of Arabia.

Anguria. 3. *Anguria* is, *Cucumis foliis palmato-ſinuatis, pomis globoſis echinatis.* Van Royen calls it, *Cucumis foliis palmatis*; Brown, *Cucumis ſubhirſutus minor, foliis profundè ſinuatis, fructibus muricatis*; Plukenet, *Cucumis ſylveſtris Americanus, anguriæ folio, fructu ovi figurâ, ſpinoſis tuberculis momordicæ inſtar muricato*; Sloane, *Cucumis anguriæ folio latiore aſpero, fructu minore candido, ſpinulis obtuſis muricatis*; and Miller, *Anguria Americana, fructu echinato eduli.* It grows naturally in Jamaica.

Acutangulus. 4. Long Indian Cucumber is, *Cucumis foliis rotundato-angulatis, pomis acutangulis.* Plukenet calls it, *Cucumis Indicus ſtriatus operculo donatus, corticoſo pulamine tectus*; others, *Cucumis longus Indicus.* It grows naturally in Tartary and China.

Dudaim. 5. Oriental Cucumber is, *Cucumis foliorum angulis rotundatis, pomis ſphæricis umbilico retuſo.* This is *Cucumis Orientalis, fructu citriformi, Walth. Hort.* 133, *t.* 21. Dillenius calls it, *Melo variegatus, aurantii figurâ, odoratiſſimus*; Ray, *Melo Perſicus minimus odoratiſſimus*; and Plukenet, *Melo puſillus odoratus, fructu pomiformi cortice variegato, è Perſiâ.* It grows naturally in the Eaſt.

Chate. 6. *Chate*, or Round-leaved Ægyptian Cucumber, is titled, *Cucumis hirſutus, foliorum angulis integris dentatis, pomis fuſiformibus hirtis utrinquè attenuatis.* Caſpar Bauhine calls it, *Cucumis Ægypticus rotundifolius*; and Alpinus, *Chate.* It grows naturally in Ægypt and Arabia.

Anguinus. 7. Long-fruited Indian Cucumber is, *Cucumis foliis lobatis, pomis cylindricis longiſſimis lævibus contortu plicatis.* It is, *Petola anguina Rumph. Amb.* 5. *p.* 407. *t.* 148. It grows naturally in India.

Maderaspatanus. 8. Small-fruited Indian Cucumber is, *Cucumis foliis cordatis integris denticulatis, pomis globoſis glabris.* In *Flora Zeyl.* it is termed, *Bryonia foliis cordatis oblongis angulatis dentatis glabris.* Plukenet calls it, *Cucumis Maderaſpatenſis, fructu minimo.* It grows naturally in India.

Claſs and order in the Linnæan ſyſtem.

Cucumis is of the claſs and order *Monoecia Syngeneſia*; and the characters are,

The characters.

I. Male Flowers.

1. Calyx. The calyx of the male flowers is a monophyllous, bell-ſhaped perianthium, whoſe border is terminated by five awl-ſhaped briſtles.

2. Corolla is bell-ſhaped, adheres to the cup, and is divided into five oval, rough ſegments.

3. Stamina. The filaments are three in number, are very ſhort, connivent, inſerted in the calyx, and two of them are bifid at the top. The antheræ run upward and downward, are very narrow, and adhere to the out-ſide.

II. Female Flowers.

1. Calyx is the ſame as in the male flowers.

2. Corolla. As in the males.

3. Stamina. None. But there are three very ſmall, ſharp-pointed filaments, with antheræ.

4. Piſtillum conſiſts of a large germen placed below the flower, a very ſhort, cylindrical ſtyle, and three thick, gibbous, bipartite ſtigmas.

5. Pericarpium is a fleſhy fruit of three cells.

6. Semina. The ſeeds are numerous, oval, acute, and compreſſed.

CHAP. CXX.

CUCURBITA, GOURD.

Species.

THERE are no more than five real ſpecies of this genus yet known, which are,

1. *Cucurbita Laginaria*, or Long Gourd.
2. *Cucurbita Pepo*, or Pumkin.
3. *Cucurbita Verrucoſa*, or Warted Gourd.
4. *Cucurbita Melopepo*, or Squaſh.
5. *Cucurbita Citrullus*, or Water Melon.

To one or other of theſe ſpecies the numerous varieties of Gourds that are found in our gardens belong.

Deſcription of the Long Gourd.

1. The Long Gourd will extend itſelf to a vaſt length in the courſe of a few months. The leaves are large, cordated, angular, downy, and glandulous at their baſe. The ſtalks are alſo ſoft and downy, and will ſometimes be twenty feet long. The flowers grow from the ſides of the ſtalks on long footſtalks, are large and white, and are ſucceeded by enormous fruit, ſome of which will be five feet long, and near two feet round; their colour is yellow, and the ſhells when dried become hard and woody.

In

Its uſes. In the countries where theſe plants grow naturally, the ſhells are of great uſe to the inhabitants, both for carrying of water and ſeveral other purpoſes. The fruit is alſo ſold in the markets for food, and reckoned very wholeſome in thoſe hot countries. With us, they are little regarded as eſculents; though they are ſaid to be very good boiled, if gathered when young and tender.

Pumkin deſcribed. 2. Pumkin is ſtill a more ſpreading ſpecies than the former. The leaves are large, roundiſh, lobed, hairy, and rough. The ſtalks, alſo, are hairy, rough, and branching. The flowers are produced from the ſides of the branches in June and July; they are of a yellow colour, and are ſucceeded by fruit of different forms and ſizes; for there is an amazing variety of theſe plants.

It is ſaid the pulp of this fruit, ſeparated from the ſeeds, and baked in the ſhell with a mixture of ſliced apples, ſugar, and ſpice, is a very good food, and as ſuch is cultivated in many parts of England.

Deſcription of Warted Gourd. 3. Warted Gourd. This ſpecies extends itſelf to a great diſtance. The leaves are large, and lobed; and the flowers are yellow. The fruit is of different forms and ſizes; ſome is of a whitiſh colour when ripe, and this peculiarity always attends it, that it is covered with large protuberances, knots, or warts; ſo that whenever we ſee a Gourd thus marked, whether its figure be oblong, round, flat, or bottle-ſhaped, we may be aſſured it is the Warted Gourd.

In America this is uſed as a culinary plant. The fruit is there gathered when about half grown, boiled, and eat with their meat, in the manner ſeveral eſculents are uſed by us for the like purpoſes.

Squaſh deſcribed. 4. Squaſh. The leaves are large, lobed, and ſhaped like a ſhield. The ſtalk has this peculiarity, that it grows erect. But this property is not always retained; for by ſowing the ſeeds conſtantly in the ſame garden, it becomes a runner, like the other ſpecies. The fruit is of different ſhapes, and in hot countries is boiled and eat by the inhabitants as ſauce for their meat.

Water Melon deſcribed. 5. Water Melon, or Citrul. The leaves are finely divided or jagged. The ſtalks are tender, trailing, and will extend themſelves to a great length. The flowers are yellow; and the fruit is of different ſizes, and much eſteemed by many people.

This ſpecies is cultivated for the ſake of the fruit in moſt of the hot parts of the world.

Uſes of all theſe ſpecies. The uſes of all theſe ſpecies are very inconſiderable in Gardening; they are chiefly propagated only for the ſake of curioſity, and a few plants of each are ſufficient for the purpoſe. Some are fond of them for covering of arbours, for which they are admirably adapted. They will in a ſhort ſpace run over an arbour, when the leaves, being large, will form a good ſhade, and the fruit, to thoſe who are unacquainted with the plants, will have a very ſtriking effect. They have alſo been directed in their courſe to the tops of trees, and have excited a cloſer examination from the diſtant beholders. But of all theſe ſorts that variety called the Orange Gourd is beſt adapted to theſe purpoſes; for this ſhewing its large, Orange-coloured fruit among the branches, has the appearance, at a diſtance, of an Orange-tree in its full perfection. They are alſo nailed up againſt walls, interwoven with pales, buſhes, &c. in all which places they have a pretty effect.

Culture of them. The culture of them is exceedingly eaſy. They require a rich, fat earth; and in ſuch, if you ſow the ſeeds the end of April, they will come up, and ſpread themſelves without further trouble, unleſs you chuſe to train them for the above purpoſe.

But, in order to have theſe ſpecies earlier, and to be ſure of procuring ripe fruit, ſow the ſeeds on a hot-bed early in April; and then give them the management you would give Cucumbers at that ſeaſon. When you plant them out, take care you do not bruiſe the leaves and tender ſtalks; preſerve a ball of earth to each root, and give them a good watering to ſettle the mould to them. The ground muſt be very rich; and if it be an old, rotten dunghill, it will be ſo much the better. In ſeveral parts of England, they are planted in old dunghills by the common-people; where they make amazing progreſs, and afford plenty of fruit in their full perfection.

The laſt ſpecies, called Water Melon, requires nicer management to bring it to perfection: And as the fruit is much eat in Italy, Portugal, Spain, and other hot countries, and is highly eſteemed by many in England, I ſhall introduce it into the kitchen-garden, and ſhall treat of it more diſtinctly in its proper place there.

Titles. Lagenaria. 1. The Long Gourd is titled, *Cucurbita foliis cordatis denticulatis tomentoſis baſi ſubtus biglandulоſis, pomis lignoſis.* In the *Hortus Cliffort.* it is termed, *Cucurbita ſeminibus obſoletè bicornibus.* Brown calls it, *Cucurbita villoſa foliis ſubangulatis baſi biglandulоſis fructu pyriformi minori*; Caſpar Bauhine, *Cucurbita oblonga, flore albo, folio molli*; Morriſon, *Cucurbita lagenaria flore albo.* It grows naturally in America.

Pepo. 2. The Pumkin is, *Cucurbita foliis lobatis, pomis lævibus.* In the *Hortus Cliffort.* it is called, *Cucurbita ſeminum margine tumido.* Caſpar Bauhine calls it, *Cucurbita major rotunda, flore luteo, folio aſpero*; and Dalechamp, *Cucurbita Indica rotunda.* It is not certainly known where this plant is found growing in a ſtate of Nature.

Verrucosa. 3. Warted Gourd is, *Cucurbita foliis lobatis, pomis nodoſo verrucoſis.* John Bauhine calls it, *Cucurbita verrucoſa*; and Tournefort, *Melopepo verrucoſus.* It is not certain where this ſpecies grows naturally.

Melopepo. 4. The Squaſh is titled, *Cucurbita foliis lobatis, caule erecto, pomis depreſſo-nodoſis.* Caſpar Bauhine calls it, *Melopepo clypeiformis*; and John Bauhine, *Cucurbita clypeiformis, ſive Siciliana.* It is uncertain where this ſpecies grows naturally.

Citrullus. 5. Water Melon is, *Cucurbita foliis multipartitis.* In the *Hortus Cliffort.* it is called, *Cucurbita ſeminum margine baſi dilatato.* Rhumphius calls it, *Anguria Indica*; Caſpar Bauhine, *Anguria citrullus dicta*; and John Bauhine, *Citrullus folio colocynthidis ſecto, ſemine nigro.* It grows naturally in Apulia, Calabria, and Sicily.

Claſs and order in the Linnæan ſyſtem. *Cucurbita* is of the claſs and order *Monoecia Syngeneſia*; and the characters are,

I. Male Flowers.

The characters. 1. CALYX is a monophyllous, bell-ſhaped perianthium, with a margin terminated by five ſubulated briſtles.

2. COROLLA is bell-ſhaped, adheres to the calyx, and is divided into five rough, veined ſegments.

The nectarium is a concave, triangular glandule, in the center of the flower.

3. STAMINA are three connivent filaments, connected at the top, diſtinct below, and adhering to the calyx, with reptant, linear antheræ.

II. Female Flowers.

1. Calyx. The ſame as in the male.
2. Corolla. As in the male.
3. Pistillum conſiſts of a large germen ſituated below the flower, a conical, trifid ſtyle, and a large, trifid ſtigma.
4. Pericarpium is a large, fleſhy apple, of three ſoft, membranaceous, diſtinct cells.
5. Semina. The ſeeds are numerous, compreſſed, tumid, obtuſe, and are placed in a double ſeries.

CHAP. CXXI.

CUMINUM, CUMIN.

THERE is only one ſpecies of this genus, called Cumin.

The plant deſcribed. The root is ſlender, white, and ſweet to the the taſte. The leaves are ſmooth, of a deep-green colour, and are beautifully divided into a multitude of long, narrow parts, not much unlike thoſe of Fennel. The ſtalks are round, ſtriated, branching, and about a foot high. The flowers are produced in umbels from the ends of the branches, are of a whitiſh-blue or purple colour, make their appearance in July, and in favourable ſeaſons the ſeeds ripen in the autumn.

Culture. It is propagated by ſowing the ſeeds in the ſpring, in a bed of good, rich earth, made fine. When the plants come up, they ſhould be thinned where they are too cloſe, ſhould be kept clean from weeds, and watered in dry weather; and this is all the trouble they will require.

Some are at the trouble of ſowing the ſeeds on a hot-bed; but this is needleſs; for if the ſeeds are good, they will come up in the common mould in about a week, will flower in July, and, unleſs much rain happens, will produce good ſeeds. And though the plants be brought forwarder by a hot-bed, if much rain ſhould happen at their time of flowering and ripening their ſeeds, it will be great odds but the ſeeds will be good for nothing.

Medicinal uſes of it. Cumin is propagated in great plenty for medicinal purpoſes in Italy, Spain, Æthiopia, Ægypt, and other hot parts of the world. The ſeeds are an admirable carminative, and are the only part of the flower uſed in medicine.

Titles. There being no other ſpecies of this genus, it ſtands ſingly with the name *Cuminum*. Caſpar Bauhine calls it, *Cuminum ſemine longiore*; and Cammerarius, *Cuminum ſativum*. It grows naturally in Ægypt and Æthiopia. Cymi-num,

Claſs and order in the Linnæan ſyſtem. The characters. *Cuminum* is of the claſs and order *Pentandria Digynia*; and the characters are,

1. Calyx. The general and partial umbels are often divided into four parts.
   The general involucrum conſiſts of four long leaves, which are ſometimes whole, ſometimes trifid. The partial is ſimilar.
   The proper perianthium is very ſmall.
2. Corolla. The general flower is uniform. Each floret conſiſts of five inflexed, emarginated, unequal petals.
3. Stamina are five ſimple filaments, with ſimple antheræ.
4. Pistillum conſiſts of a large germen ſituated below the flower, and two very ſmall ſtyles with ſimple ſtigmas.
5. Pericarpium. There is none. The fruit is oval, and ſtriated.
6. Semina. The ſeeds are two, oval, convex and ſtriated on one ſide, and plane on the other.

CHAP.

CHAP. CXXII.

CUNILA.

THERE are two Annuals of this genus, called,

Species.

1. Canada *Cunila.*
2. Montpelier *Cunila.*

Deſcription of Canada

1. Canada *Cunila.* The ſtalks are upright, branching, and ſeven or eight inches high. The leaves are ſpear-ſhaped, oval, oblong, indented in one or two places, and finely ſcented. The flowers come out in whorls almoſt the whole length of the plant; they are white, having a fine purple or violet colour in the middle, appear in July and Auguſt, and the ſeeds ripen in the autumn.

and Montpelier Cunila.

2. Montpelier *Cunila.* The ſtalk is upright, four-cornered, branching a little, and ſix or eight inches high. The leaves are oval, obtuſe, entire, ſmooth on the upper ſide, and ſtriated underneath. The flowers come out in whorls the whole length of the plant, and are of a white colour, having ſome purpliſh marks in the middle; they appear in July and Auguſt, and the ſeeds ripen in the autumn.

Culture.

Theſe ſpecies are propagated by ſowing the ſeeds in beds of light earth, made fine, in the ſpring. After the plants come up, all the trouble they will call for is, to thin them where they are too cloſe, water them in dry weather, and keep them clean from weeds.

Titles.

1. The firſt ſpecies is titled, *Cunila foliis oblongis unidentatis, floribus verticillatis.* In the former edition of the *Species Plantarum* it is termed, *Meliſſa Pulegoides.* Gronovius calls it, *Meliſſa floribus verticillatis glomeratis ſecundum longitudinem caulis, foliis tomentoſis.* It grows naturally in the dry parts of Canada and Virginia.

Pulegioides.

2. The ſecond ſpecies is, *Cunila foliis ovalibus integerrimis, floribus verticillatis.* In the former edition of the *Species Plantarum* it is, *Thymus Pulegoides.* Moriſon calls it, *Acinos thymi folio & facie, floribus inexpanſis.* It grows naturally about Montpelier.

Thymoides.

CHAP. CXXIII.

CYNOGLOSSUM, HOUND's TONGUE.

Species.

THE Annuals of this genus are,

1. Silvery Narrow-leaved Hound's Tongue.
2. Apennine Hound's Tongue.
3. Flax-leaved Hound's Tongue, or Venus' Navel-wort.
4. Portugal Hound's Tongue, or Taller Venus Navel-wort.
5. Virginian Hound's Tongue.

Silvery Narrow-leaved Hound's Tongue deſcribed.

1. Silvery Narrow-leaved Hound's Tongue. The ſtalk is upright, ſlender, and about a foot high. The leaves are long, narrow, ſpear-ſhaped, of a ſilvery whiteneſs, and ſit cloſe without any footſtalks. The flowers adorn the ends and upper parts of the ſtalks in ſmall cluſters, are of a deep-purple colour, and are much longer than the calyx; they come out in June and July, and the ſeeds ripen in September.

Variety.

There is a variety of this ſpecies with white flowers veined with red.

Deſcription of Apennine

2. Apennine Hound's Tongue. This ſpecies is alſo frequently called Great Mountain Hound's Tongue. The ſtalk is upright, robuſt, and about a yard high. The radical leaves are large, broad, long, and ſpread themſelves on the ground; thoſe on the ſtalk are narrower, and ſit cloſe, having no footſtalks. The flowers adorn the upper parts of the plant in great plenty, are of a dark-red or purpliſh colour, appear in June and July, and the ſeeds ripen in September.

Flax-leaved,

3. Flax-leaved Hound's Tongue, or Venus' Navel-wort. The ſtalks are ſlender, upright, and about ſeven or eight inches high. The leaves are long, narrow, ſmooth, and of a greyiſh colour. The flowers adorn the upper parts of the plant in looſe panicles; they are white, appear by different ſowing at any time of the ſummer, and are ſucceeded by umbilicated ſeeds, which occaſions the name Navel-wort, or Venus' Navel-wort, to be applied to this ſpecies.

Portugal,

4. Portugal Hound's Tongue, or Larger Venus' Navel-wort. This ſpecies riſes with an erect, rough, branching ſtalk, to twelve or fifteen inches high. The leaves are narrow, ſpear-ſhaped, rough, and ſit cloſe without any footſtalks. The flowers grow in long ſpikes at the ends of the branches, are white, and each has its own ſeparate footſtalk; they come out in June, and are ſucceeded by umbilicated ſeeds, like the former.

This ſpecies, by being ſown at different times, may be brought to flower all the latter end of the ſummer and autumn. The appearance is not much unlike the Common Venus' Navel-wort, but it is larger, a much finer plant, and in every reſpect, as a flower, better worthy of culture.

and Virginian Hound's Tongue.

5. Virginian Hound's Tongue. The ſtalks are upright, branching a little near the top; and about a foot and a half high. The leaves are

broad, oval, and embrace the ſtalk with their baſe. The flowers come out in ſpikes from the ends of the branches; they are of a dull-red colour, appear in June and July, and the ſeeds ripen in the autumn.

Culture. All theſe ſorts are eaſily propagated by ſowing the ſeeds in a bed of common mould in the ſpring. When they come up they muſt be thinned to proper diſtances, and afterwards they will require no trouble, except keeping them clean from weeds; and watering them in dry weather. In order to have them flower early, ſowing of all the ſorts ſhould be made in the autumn, ſoon after the ſeeds are ripe, eſpecially of the ſecond, which ſtands the winter well; and in order to cauſe them to flower late in the ſummer or autumn, different ſowings at an interval of three weeks ſhould be made from the beginning of ſpring until June.

All theſe ſorts, but more eſpecially the ſecond, will ſcatter their ſeeds, which will grow and ſhew themſelves in different parts of the garden, without any trouble; and ſuch plants are generally ſtronger, and flower earlier, than thoſe that have been regularly raiſed from ſeeds ſown by the hand.

Titles. 1. Narrow-leaved Silvery Hound's Tongue is titled, *Cynogloſſum corollis calyce duplo longioribus, foliis lanceolatis.* Caſpar Bauhine calls it, *Cynogloſſum Creticum, argenteo anguſto folio*; and Cluſius, *Cynogloſſum Creticum* 1. It grows naturally in Crete, Spain, and the Eaſt. Cheiri-folium.

2. Apennine Hound's Tongue is, *Cynogloſſum ſtaminibus corollam æquantibus.* Columna calls it, *Cynogloſſa montana maxima frigidarum regionum.* It grows naturally on the Apennine mountains. Apenni-num.

3. Flax-leaved Hound's Tongue, or Venus' Navel-wort, is, *Cynogloſſum foliis lineari-lanceolatis glabris.* Moriſon calls it, *Cynogloſſum minus album, lini foliis glaucis, ſemine umbilicato.* It grows naturally in Luſitania. Linifo-lium.

4. Portugal Hound's Tongue, or Taller Venus' Navel-wort, is, *Cynogloſſum foliis lineari-lanceolatis ſcabris.* In Miller's Dictionary it is termed, *Cynogloſſum caule erecto ramoſo, foliis lanceolatis, ſcabris ſeſſilibus, ſpicis florum longiſſimis.* Tournefort calls it, *Omphalodes Luſitanica elatior, cynogloſſi folio.* It grows naturally in Luſitania. Lusita-nicum.

5. Virginian Hound's Tongue is, *Cynogloſſum foliis amplexicaulibus ovatis.* Gronovius calls it, *Cynogloſſum foliis amplexicaulibus.* It grows naturally in Virginia. Virgini-anum.

C H A P. CXXIV.

C Y N O S U R U S.

THE ſhort-lived ſpecies of this genus are uſually called,

Species.
1. Rough Dog's-Tail Graſs.
2. Small Spaniſh Dog's-Tail Graſs.
3. Golden Dog's-Tail Graſs.
4. Indian Dog's-Tail Graſs.
5. American *Dactylon.*

Rough, 1. Rough Dog's-Tail Graſs. This graſs grows naturally in ſandy places in the different parts of the world. The leaves are of a blueiſh-green colour. The ſtalk is jointed and hollow, as is the property of graſſes. The flowers are produced at the ends of the ſpikes in ſhort, cloſe, extremely rough, briſtly ſpikes; they are generally in fulleſt blow in July, but from different plants they ſhow themſelves from May to the end of autumn.

Small Spaniſh, 2. Small Spaniſh Dog's-Tail Graſs. The ſtalk is ſlender, and hardly a foot high. The leaves are ſmall, and ſheath the ſtalk with their baſe. The flowers come out from the tops of the ſtalks in oblong, compreſſed, imbricated ſpikes; they appear in June and July, and the ſeeds ripen in Auguſt.

Golden, 3. Golden Dog's-Tail Graſs. This riſes with a ſlender, jointed ſtalk, to about a foot and a half high. The leaves are ſmall, narrow, and of a pale-green colour. The flowers grow in pendulent ſpikes from the tops of the ſtalks; they are ariſtated, and of a golden-yellow colour; they appear in July and Auguſt, and the ſeeds ripen in Auguſt and September.

4. Indian Dog's-Tail Graſs. The ſtalks are compreſſed, knotty near the baſe, and muſt be ſupported to keep them in an upright poſition. The leaves are long, pointed, grow alternately, and their ends hang downward. The flowers come out from the tops of the ſtalks in long, narrow, digitated ſpikes, having briſtly awns on their back; they appear in July and Auguſt, and the ſeeds ripen in September. and Indian Dog's Tail Graſs deſcribed.

5. American *Dactylon.* The ſtalks are upright, firm, compreſſed, and grow to be four feet high. The leaves are long, hairy, grow oppoſite, or nearly ſo, and ſheath the ſtalk with their baſe. The flowers are produced from the ends of the ſtalks in digitated, incurved ſpikes; they appear in July and Auguſt, and are ſucceeded by large, roundiſh, naked ſeeds, arranged in four rows, which ripen in the autumn. American Dactylon deſcribed.

The ſeeds of the firſt three ſorts may be ſown any time in the autumn or ſpring, and you will ſoon have plants enough. Culture

The laſt two ſorts muſt be raiſed on a hotbed; and when the plants are fit to remove, they muſt be carefully ſet out in a warm, well-ſheltered place, otherwiſe they will not perfect their ſeeds.

1. Rough Dog's-Tail Graſs is titled, *Cynoſurus bracteis pinnato-paleaceis ariſtatis.* Caſpar Bauhine calls it, *Gramen alopecuroides, ſpicâ aſperâ*; and Barrelier, *Gramen alopecurum, ſpicâ aſperâ.* It is common in moſt of the ſouthern parts of Europe, alſo in the Eaſt. Titles. Echina-tus.

2. Small Spaniſh Dog's-Tail Graſs is, *Cynoſurus* Lima

ſpicâ ſecundâ, calycis glumâ interiore ſpiculis ſubjectâ. It grows naturally in Spain.

Aureus. 3. Golden Dog's-Tail Graſs is, *Cynoſurus paniculæ ſpiculis ſterilibus pendulis ternatis, floribus ariſtatis.* Tournefort calls it, *Gramen barcinonence, paniculâ tenſe aureâ*; Caſpar Bauhine, *Gramen panicula pendula aurea*; and Barrelier, *Gramen Sciurum, ſ. alopecurum minus heteromallâ paniculâ.* It grows naturally in rocky places in the ſouth of Europe, and in the Eaſt.

Indicus. 4. Indian Dog's-Tail Graſs is, *Cynoſurus ſpicis digitatis linearibus, culmis compreſſis declinatis baſi nodoſis, foliis alternis.* Van Royen calls it, *Cynoſurus ſpicis aggregatis terminalibus deorſum ariſtatis*; Burman, *Gramen dactyloides ſpicis deorſum ariſtatis*; and Rumphius, *Gramen vaccinum femina.* It grows naturally in both the Indies.

Coracan. 5. American *Dactylon* is, *Cynoſurus ſpicis digitatis incurvatis, culmo erecto compreſſo, foliis ſuboppoſitis.* Caſpar Bauhine calls it, *Gramen Dactylon Ægyptiacum*; Scheuchzer, *Gramen Dactylon Americanum minus*; Plukenet, *Gramen Dactylon orientale frumentaceum, ſemine napi*; and Rumphius, *Panicum gramineum, ſ. Naatsjoni.* It grows naturally in India.

C H A P. CXXV.

DATURA; THORN APPLE.

Species. THE Annuals of this genus are,

1. The Common Thorn Apple, or *Stramonium.*
2. Chineſe Thorn Apple.
3. Great Purple *Stramonium.*
4. African Thorn Apple, or *Metella* Nut.
5. Ægyptian Thorn Apple.

Common Thorn Apple deſcribed. 1. Common Thorn Apple, or *Stramonium.* The ſtalk is round, hollow, ſometimes an inch thick, green, and divides irregularly into many ſpreading branches, which extend themſelves two feet every way, often making the plant nearly as broad as it is high. The leaves are large, broad, ſerrated, acute-pointed, ſmooth, of a dark-green colour, and grow alternately on tolerably ſtrong footſtalks. The flowers come out ſingly from the wings of the branches on ſtraight footſtalks; they are very large, of a pure white colour, and the general characters indicate their ſtructure; they appear in June, July, Auguſt, and September, and are ſucceeded by very large, green, oval, prickly fruit, called Thorn-Apples, containing ripe ſeeds, in September, or earlier from the firſt-blown flowers.

Medicinal properties of it. The juice of this plant, mixed with freſh lard, affords an ointment that is admirable for ſcalds, burns, and inflammations of all ſorts; a ſalve alſo is prepared from the leaves, which is an excellent vulnerary, either for freſh or old ſores.

Chineſe Thorn Apple, 2. Chineſe Thorn Apple. The ſtalks are thick, branching, and grow to about a foot and a half high. The leaves are broad, oval, angular, pointed, and grow alternately on long footſtalks. The flowers come out from the wings of the ſtalks in ſummer, and are ſucceeded by large, thick, oval, erect pericarpiums, armed with numerous, long, ſtrong thorns.

and Great Purple Stramonium deſcribed. 3. Great Purple *Stramonium.* The ſtalk is very large, ſmooth, purple-coloured, often ſpotted, branching, and hollow. The leaves are large, heart-ſhaped, ſmooth, and indented on their edges; they are of a pale-blue colour, and are ſucceeded by erect, oval, prickly pericarpiums, containing the ſeeds.

Variety. There is a variety of this ſpecies with white flowers.

African Thorn Apple deſcribed. 4. African Thorn Apple, or *Metella* Nut. The ſtalk is round, ſmooth, and a foot and a half or two feet high. The leaves are large, heart-ſhaped, ſinuated, hoary, and grow alternately on the ſtalks. The flowers come out ſingly from the diviſions of the branches; they are very long, and of a pure-white colour; they appear in July, and are ſucceeded by roundiſh, prickly pericarpiums, which hang downward, and afford ripe ſeeds in the autumn.

Varieties. There is a variety of this ſpecies with violet, and another with reddiſh-coloured flowers.

Ægyptian Thorn Apple deſcribed. 5. Ægyptian Thorn Apple. The ſtalks are ſmooth, poliſhed, purple-coloured, branching, and grow to be four feet high. The leaves are large, ſmooth, ſinuated, and grow alternately on long footſtalks. The flowers come out from the diviſions of the branches; they are large, of a beautiful purple colour on the outſide, and of a pure white within; ſome of them ſhew themſelves ſemi-double, others double, and they are poſſeſſed of an agreeable odour; they appear in July and Auguſt, and are ſucceeded by globular, drooping pericarpiums, which are full of blunt tubercles, and contain ripe ſeeds, in the autumn.

Culture. The ſeeds of the firſt ſort ſhould be ſown in the autumn, ſoon after they are ripe, and this will cauſe them to flower early the ſummer following; and after they have once flowered, and ſhed their ſeeds, the plants will come up all over the garden, and afford you no trouble to keep up the ſucceſſion, except deſtroying ſuch as come up in improper places. The others alſo will ſometimes come up from caſually ſcattered ſeeds in the ſame manner; but as they are more tender than the other ſort, and often killed by bad weather, the beſt way will be to ſow the ſeeds in the ſpring, on a hotbed. When the plants come up, they muſt have plenty of air, be frequently watered, and thinned where they are too cloſe; they muſt be hardened by degrees to the open air, and about the end of May, on a moiſt day, ſhould be removed to the places where they are to flower and bear fruit. And as it ſometimes happens that in wet ſeaſons the ſeeds do not ripen, unleſs they are protected with glaſſes from the rain, it will be neceſſary to let a plant or two of each ſort remain undiſturbed in the hotbed, taking the glaſſes off, and expoſing them to the open air. Such plants will grow to near twice the ſize of the removed ones, and being very ſtrong, and flowering earlier, will be pretty ſure of producing ripe ſeeds, let the weather be what it will.

Titles. Stramonium. 1. Common Thorn Apple, or *Stramonium*, is titled, *Datura pericarpiis ſpinoſis erectis ovatis, foliis ovatis glabris.* Caſpar Bauhine calls it, *Solanum fœtidum, pomo ſpinoſo oblongo, flore albo*; Tournefort, *Stramonium fructu ſpinoſo oblongo, flore albo*; and Ray, *Solanum pomo ſpinoſo oblongo, flore calathoide, Stramonium vulgò dictum.* It was brought originally from America, and now grows very common in England, and moſt parts of Europe.

Ferox. 2. Chineſe Thorn Apple is, *Datura pericarpiis ſpinoſis erectis ovatis: ſpinis ſupremis maximis convergentibus.* Zanoni calls it, *Datura cochinenſis ſpinoſiſſima*; Herman, *Stramonium, ſive Datura ferox, como craſſioribus aculeis robuſtioribus*; Boccone, *Stramonium ferox*; and Barrelier, *Stramonium longioribus aculeis.* It grows naturally in China.

Patula 3. Great Purple *Stramonium* is, *Datura pericarpiis ſpinoſis erectis ovatis, foliis cordatis glabris dentatis.* Caſpar Bauhine calls it, *Solanum ſativum, pomo ſpinoſo oblongo, flore albo*; and Ray, *Stramonium majus purpureum.* The place of its natural reſidence is not known.

Metel. 4. African Thorn Apple, or *Metella* Nut, is, *Datura pericarpiis ſpinoſis nutantibus globoſis, foliis cordatis ſubintegris pubeſcentibus.* Rumphius calls it, *Datura alba*; and Caſpar Bauhine, *Solanum, pomo ſpinoſo rotundo, flore longo.* It grows naturally in Africa and Aſia.

5. Ægyptian Thorn Apple is, *Datura pericarpiis tuberculatis nutantibus globoſis, foliis lævibus.* Fastuosa Rumphius calls it, *Datura rubra*; Caſpar Bauhine, *Solanum fœtidum, fructu ſpinoſo rotundo, ſemine pallido*; alſo, *Solanum Ægypticum flore pleno*; Cammerarius, *Nux metella*; and Tournefort, *Stramonium fructu ſpinoſo rotundo, flore duplici triplicive.* It grows naturally in Ægypt.

Datura is of the claſs and order *Pentandria Monogynia*; and the characters are, Claſs and order in the Linnæan Syſtem. The characters.

1. CALYX is a monophyllous, oblong, tubular, ventricoſe, five-cornered perianthium, indented in five parts.

2. COROLLA is one infundibuliforme petal. The tube is cylindrical, and longer than the calyx. The limb is erect, ſpreading, poſſeſſed of five angles, folded in five parts, nearly entire, but riſing at the angles into acute points.

3. STAMINA are five awl-ſhaped filaments the length of the calyx, having oblong, compreſſed, obtuſe antheræ.

4. PISTILLUM conſiſts of an oval germen, a ſtraight, filiforme ſtyle, and a thickiſh, obtuſe, bilamellated ſtigma.

4. PERICARPIUM is an oval capſule, formed of four valves, and containing two cells.

The receptacles are large, convex, punctated, and affixed to the diſſepiment.

6. SEMINA. The ſeeds are numerous, and kidney-ſhaped.

CHAP. CXXVI.

DAUCUS, CARROT.

OUR collection may be thought incomplete if we wholly paſs by the *Daucus*; for altho' the ſpecies are of no very great beauty, and rarely propagated, except the common Carrot for uſe; yet there are ſome who are boundleſs in their curioſity, and would chuſe a few plants of every ſort: Such as theſe may take in,

Species. 1. The Great Spaniſh Carrot.
2. The Tooth-pick Carrot.
3. The Shining Sea Carrot.
4. The Prickly-ſeeded Carrot.

Deſcription of the Great Spaniſh, 1. The Great Spaniſh Carrot riſes with a large, rough ſtalk, to a yard or better in height. The leaves are like our Common Carrot, but their footſtalks are ſtreaked with white veins. The umbel is exceedingly large, and the flowers are of a darkiſh-purple colour. It is an Annual; and if the ſeeds are ſown in the autumn, it will flower early in the ſummer, and perfect the ſeeds ſoon after.

Tooth-pick, 2. The Tooth-pick Carrot. This plant will grow to about a yard high. The ſtalk is upright, ſmooth, channelled, and branching. The leaves are ſmooth, finely divided, and compoſed of a multitude of narrow ſegments, like Fennel; on this account alone this plant ſhould not be omitted, where there are any pretenſions to a good Collection. The flowers terminate the ſtalks in large, compound umbels; the footſtalks that ſupport the ſmall umbels are long and ſtiff, and are uſed by the Spaniards for Tooth-picks. Hence the name *Viſnaga*, or Tooth-pick, has been given by them to this plant.

The ſeeds ſhould always be ſown in the autumn, and they will flower earlier the ſummer following, and be ſurer of growing.

Shining Sea, 3. Shining Sea Carrot. The ſtalk is upright, ſmooth, and branching. The leaves are a little like thoſe of the Common Carrot, but the ſegments are broader, and of a ſhining-green colour. The flowers terminate the ſtalks in large, compound umbels; and to have them early in the ſummer, the ſeeds ſhould be ſown in the autumn before.

and Prickly-ſeeded Carrot. 4. Prickly-ſeeded Carrot. This riſes with an upright, branching ſtalk, to the height of about a yard. The leaves are hairy, and compoſed of a multitude of ſmall parts, like thoſe of the

Common Carrot. The flowers terminate the ſtalk in large umbels; they are of a white colour, and are ſucceeded by prickly ſeeds.

Variety. The Dwarf Sea *Caucalis* of Caſpar Bauhine is a variety only of this ſpecies.

Culture. The beſt time for ſowing this, as well as all the other ſorts, is the autumn. Any common garden-mould will do for them; and they will require no more trouble than keeping them clean from weeds, and thinning them where they come up too cloſe.

Titles. 1. The Great Spaniſh Carrot is titled, *Daucus ſeminibus hiſpidis, floſculo centrali ſterili carnoſo, receptaculo communi hemiſphærico.* Tournefort calls it, *Daucus Hiſpanicus, umbellâ magnâ*; and Caſpar Bauhine, *Paſtinaca tenuifolia ſylveſtris, umbellâ majore.* It grows naturally in Spain, Italy, and Mauritania.

Mauri=tanica.

2. The Tooth-pick Carrot is, *Daucus ſeminibus nudis.* Caſpar Bauhine calls it, *Gingidium umbellâ oblongâ*; and Dodonæus, *Gingidium alterum.* It grows naturally on Mount Lebanon, and in Italy and Spain.

Visna=ga.

3. Shining Sea Carrot is, *Daucus radiis involucri planis: laciniis recurvis.* Tournefort calls it, *Daucus montanus lucidus*; Caſpar Bauhine, *Gingidium folio chærophylli*; Matthiolus, *Gingidium*; Magnol, *Paſtinaca tenuifolia marina, foliis obſcurè virentibus & quaſi lucidis*; and Boccone, *Paſtinaca folio oenanthes.* It grows naturally about Montpelier.

Gingi=(dium.

4. Prickly-ſeeded Carrot is, *Daucus ſeminibus aculeatis.* In the former edition of the *Species Plantarum* it is termed, *Artedia ſeminibus aculeatis.* Moriſon calls it, *Caucalis major daucoides Tingitana*; Rivinus, *Echinophora Tingitana*; Caſpar Bauhine, *Caucalis pumila maritima*; and John Bauhine, *Lappula canaria, ſive caucalis maritima.* It grows naturally in Mauritania.

Murica=tus.

Claſs and order in the Linnæan ſyſtem. *Daucus* is of the claſs and order *Pentandria Digynia*; and the characters are,

The characters. 1. Calyx. The general umbel, which is compoſed of many ſmall ones, when it is in flower is plane, but afterwards it becomes concave and connivent. The partial umbel is multiple, and like the general one.

The general involucrum is compoſed of many narrow, pinnatifid leaves, which are the length of the umbel.

The partial is more ſimple, and the length of the umbellula.

The proper perianthium is hardly diſcernible.

2. Corolla. The general corolla is radiated and difform. The corolla of each ſeparate flower conſiſts of five heart-ſhaped, inflexed petals, the outer one being larger than the others.

3. Stamina are five capillary filaments, with ſimple antheræ.

4. Pistillum conſiſts of a ſmall germen ſituated below the flower, and two reflexed ſtyles, with obtuſe ſtigmas.

5. Pericarpium. There is none. The fruit is oval, hiſpid, and divides into two parts.

6. Semina. The ſeeds are two. Their figure is nearly oval, convex on one ſide, and plane on the other.

* * *

CHAP. CXXVII.

DELPHINIUM, LARKSPUR, or LARK'S HEEL.

THE real diſtinct Annual ſpecies of this genus are,

Species.
1. Wild Larkſpur.
2. Royal Larkſpur.
3. Mauritanian Larkſpur.
4. Italian Larkſpur.
5. Dalmatian Larkſpur.

Deſcription of the Wild, 1. Wild Larkſpur. The ſtalks are round, tough, branching, and grow to be three feet high. The leaves are compoſed of ſeveral, long, narrow ſegments; they are of a dark-green colour, and grow alternately at the joints. The flowers are produced in ſpikes from the ends of the branches; the moſt common colours are blue and white, but there are varieties of this ſpecies of almoſt all ſorts of colours. In theſe colours they ſhew themſelves not only in a ſingle ſtate, but ſemi-double and full double, preſenting themſelves in great gaiety and beauty to all beholders.

Royal, 2. Royal Larkſpur. This riſes with an upright, firm, ſimple ſtalk to a yard or more in height. The leaves are ſmooth, compoſed of ſeveral long, narrow ſegments, and grow alternately on the ſtalks. The flowers are produced in long ſpikes from the ends of the ſtalks; they are large, and the ſpikes are frequently a foot or more in length; they are of almoſt all colours, and different degrees of doubles, and may be juſtly ranked among the moſt beautiful of all our hardy Annuals.

Mauritanian, 3. Mauritanian Larkſpur. The ſtalk is tough, branching, and about a yard high. The leaves conſiſt of ſeveral long, narrow parts, and they grow alternately. The flowers grow in ſpikes from the ends of the branches; they are uſually of a blue colour, with a tinge of red or green on the outſide; though there are other varieties with reſpect to the ſize of the plant, the different degrees of doubleneſs, and colours of the flowers.

and Indian Larkſpur. 4. Italian Larkſpur. The ſtalk is very branching, and grows to about two feet high. The leaves on the upper parts of the plant are ſingle, though near the bottom they are divided into many

many broad, obtuſe ſegments. The flowers are produced but thinly from the upper parts of the branches; they are ſmall, of a deep blue colour, and are ſucceeded by ſmall, ſingle capſules, containing the ſeeds.

Dalmatian Larkſpur deſcribed.

5. Dalmatian Larkſpur. The ſtalks are ſtrong, upright, hairy, and grow to be two feet high. The leaves are compoſed of five or ſeven obtuſe lobes, which join at the baſe, and are hairy. The flowers grow in looſe ſpikes from the upper parts of the ſtalks; their moſt common colour is a pale-blue, though purple and flowers of other colours will ſometimes preſent themſelves from the ſeeds.

Method of propagating them.

These ſorts are all raiſed by ſowing the ſeeds in the autumn or ſpring; though the former is moſt preferable, as they will flower early the ſummer following, and be ſure of perfecting their ſeeds; which does not always happen to the Double ſorts, if the ſeeds are ſown in the ſpring.

The laſt two ſorts are cultivated chiefly for obſervation in extenſive Collections; the others, for the beauty of their flowers, and the variety of colours they afford; particularly the ſecond ſort, which every good Gardener of taſte is ambitious of exhibiting in as perfect, full, and agreeable a manner as poſſible. To effect this, or, as the phraſe is, in order to have a good ſhow of Larkheels, let the ſeeds be gathered from the moſt double flowers, which are the largeſt, and of the beſt colours, and ſown in drills the whole length of the border on each ſide the walk. If you have ſeeds enough, let three rows be ſown at a foot diſtance from each other; but if you have a deficiency of ſeed, take care to ſupply that by ſowing ſeed enough to anſwer the purpoſe for the future. Let the firſt ſowing be made early in September or Auguſt, if your ſeeds are ripe. The mould muſt be made exceeding fine, and the drills drawn with a ſtraight line; let the ſeeds be then thinly ſown along them, and covered over with about a quarter of an inch of the fineſt mould. The next day, if the weather is dry, give them a watering; and if ſuch weather continues, repeat it twice a week. In the autumn the plants will come up, and probably many weeds with them: Draw theſe out from among the plants, but do not thin them, though they appear too cloſe, for it is probable a hard winter may do this for you; and even in the ſpring be cautious of thinning, even though they ſhew ſigns or threaten to crowd each other; becauſe a thinning muſt be made when they ſhew their flowers, and if it be done earlier the beſt ſorts may probably be drawn out.

When dry weather happens in the ſpring or ſummer, water your plants every other evening, keep the ground clean from weeds, and as their ſtalks advance, thruſt ſome forked ſticks between the rows, to ſupport rods or long ſticks laid on them horizontally. The Larkheels are to be faſtened to them, that they may be kept in an upright poſition; for they are very liable, when in their greateſt beauty, to be blown down all manner of ways by a ſtrong wind, ſhewing themſelves in a very ruinous condition; and this may be prevented by drawing a packthread artfully the whole length, and faſtening the plants to the horizontal rods, which may be concealed between the rows.

When the plants begin to flower, your eye muſt daily attend them; and on the firſt appearance of ſingle flowers, and even ſemi-doubles and doubles, of dull and bad colours, they muſt be drawn up by the roots, and thrown away: A repetition of this work muſt be made as often as ſuch inferior flowers preſent themſelves, until the blow is over. Thus your ſhow of Larkſpurs will be more perfect in its double ſtate; and by obſerving this practice every year, and changing the ſoil, may be continued ſo: They will glow in the different colours of red, white, pink, blue, aſh-coloured, purple, &c. Stripes of different kinds alſo will preſent themſelves, mixing with all theſe colours; ſo that ſome flowers will ſhew themſelves variegated and full double, others ſelf-coloured, aſſuming the different tinges of red, white, blue, &c. The ſelf-coloured ones, however, in my opinion, are in general more beautiful than the variegated; and of all thoſe, the Double-red is to be preferred. This is known among Gardeners by the name of Roſe Larkſpur. It always grows ſtrong, if not crowded; and the flowers adorn the upper part a third part of the whole length; ſo that the greateſt caution ſhould be uſed in keeping up this ſort among others: For though it is only a ſeminal variety, and liable to loſe its colours, yet the greateſt quantity of the like plants will be produced from ſeeds gathered of that ſort Some think the ſeeds ſhould be gathered from the bottom-parts of the plant only, and that the tops ſhould be nipped off; but this is needleſs trouble, and deſtroys the beauty of the plants before they are out of bloſſom. The ſeeds of every part of the plant will be good, provided it be well ripened; but thoſe on the upper part of the plant hardly ever ripen ſo well as thoſe on the lower, becauſe the lower ones ſucceed the firſt-blown flowers, are generally larger, ripen ſooner, and have a bolder look; and as ſuch are preferable, though not of ſuperior quality, if thoſe higher up are well ripened.

The ſeeds of theſe plants ſhould be gathered every day, taking the veſſels firſt from the bottom of the plant, as they open firſt, and ſo proceeding to the others, as they ſucceed in order; becauſe if you were to wait until all were ripe, the lower veſſels would have diſcharged their ſeeds, which are generally thought the beſt, and ſome only upon the upper part of the plant would be found for uſe. When the ſeeds are gathered, they ſhould be laid a few days to dry in an airy place, and then ſowed, for the ſhow the ſucceeding ſummer. As theſe flowers are ſo very ornamental, a ſowing alſo in a ſimilar manner ſhould be made in the ſpring, to ſucceed thoſe of the former, which will come in when their beauty is over, and continue until autumn. And as it is not intended that the ſeeds from this ſpring ſowing ſhould be collected, you need not be very nice in drawing out the ſingle and bad-coloured ones, unleſs they grow ſo thick as to crowd and choak the others; but you may let them all grow promiſcuouſly together, to make as great a ſhow at a diſtance as poſſible.

Larkſpurs have been generally ſown in patches; but ſuch practice is ſimilar to planting Tulips in patches; it is trifling: To do fine Larkſpurs juſtice, they ſhould be ſown in long rows, as directed.

Larkſpurs, in their ſingle ſtate, are very beautiful, and would be highly valuable, were they not ſo much excelled by the variety of colours and Doubles which are obtained by good culture.

When Larkſpurs have obtained poſſeſſion of a garden, ſhould their culture be neglected, they will ſow themſelves, and come up all over the contiguous parts of the garden without order. Among ſuch I have ſeen ſome admirable Doubles, four or five feet high; but theſe in time will degenerate, and in a few years only the Single Blue, the Pale-red, and ſometimes the White, will preſent themſelves to view.

1. The

Titles. Consolida. 1. The Wild Larkſpur is titled, *Delphinium nectariis monophyllis, caule ſubdiviſo.* Caſpar Bauhine calls it, *Conſolida regalis arvenſis, flore cæruleo*; Cammerarius, *Conſolida regalis*; Tournefort, *Delphinium ſegetum, flore cæruleo*; and Gerard, *Conſolida regalis ſylveſtris.* It grows naturally in open fields, and frequently among corn in England, and moſt parts of Europe.

Ajacis. 2. Royal Larkſpur is, *Delphinium nectariis monophyllis, caule ſimplici.* Dodonæus calls it, *Flos regius*; Caſpar Bauhine, *Conſolida regalis hortenſis, flore majore & ſimplici*; alſo, *Conſolida regalis hortenſis, flore minore*; alſo, *Conſolida regalis, flore majore & multiplici.* It is not certain in what part of the world this ſpecies naturally grows.

Ambiguum. 3. Mauritanian Larkſpur is, *Delphinium nectariis monophyllis, corollis hexapetalis, capſulis ternis, foliis multipartitis.* Cluſius calls it, *Delphinium elatior, ſimplici flore*; and Caſpar Bauhine, *Conſolida regalis, flore minore.* It grows naturally in Mauritania.

Peregrinum. 4. Italian Larkſpur is, *Delphinium nectariis diphyllis, corollis enneapetalis, capſulis ternis, foliis multipartitis obtuſis.* Caſpar Bauhine calls it, *Conſolida regalis latifolia, parvo flore.* It grows naturally in Italy, Sicily, Melita, and Paleſtine.

Staphisagria. 5. Dalmatian Larkſpur is, *Delphinium nectariis diphyllis petalo brevioribus, foliis palmatis: lobis obtuſis.* Caſpar Bauhine calls it, *Staphiſagria.* It grows naturally in Iſtria, Dalmatia, Calabria, Apulia, and Crete.

C H A P. CXXVIII.

DIANTHUS, The PINK.

IT has been cuſtomary to arrange one or two ſpecies of the *Dianthus* among the tribe of Annuals, becauſe if they are ſown in the ſpring, they will perfect their flowers and ſeeds in one year, dying for the moſt part the winter following; but they may as well be termed Perennials, ſince with proper management they may be made to continue many years. As Annuals, however, I ſhall treat of them here, and afterwards give directions ſo to manage them, that the roots may be preſerved to produce flowers in ſucceeding ſummers. The ſorts that naturally fall under preſent conſideration are,

Species.
1. The China Pink.
2. The Annual Sweet-William.
3. German Pink.
4. Superb Pink.

China Pink. Varieties. 1. China Pink. Of this there are two beautiful varieties, viz.

Single China Pink,
Double China Pink.

Single. Single China Pink. I have diſtinguiſhed the Single from the Double ſort, becauſe there is a very great elegance attending it even in that ſtate; and ſome Single flowers of this ſpecies are by many equally deſired with the Double; for the colour being ſo exceeding bright and clear, and the variegation often ſo diſtinct, ſome people fancy they can indulge more, by beholding theſe properties on a ſingle petal, than when by a multiplicity of them they form a full flower. Be that as it may, both the ſorts, for they differ in nothing but their double flowers, ſeldom ariſe higher than about a foot; and the ſtalk naturally branches out, for the better ſupport of the flowers. The blow will be in July, and the ſucceſſion will be continued during two months or more; nay, I have had them flower until November, when the ſeverity of the winter coming on, put a period to their further gaiety.

and Double China Pink deſcribed. Double China Pink. However eſteemed the Single ſorts may be by ſome people, the Double are certainly the fineſt flowers; for ſometimes their multiplicity of petals is ſo great as to fill the flower; and then what can be conceived finer than flowers of this nature adorned with ſuch lively and ſtriking bright and rich colours? ſo that if a few of the ſingle ſorts are deſired, a far greater quantity of doubles are to be ſought for, as the blow will be by far more elegant and noble. In order to have theſe flowers double, ſeeds muſt be collected from the double flowers of the beſt properties: Such double ſeeds ſeldom produce ſingle flowers; whilſt ſeeds of the ſingle ſorts rarely produce flowers of the double kind.

Culture. As Annuals, then, let us conſider the management of theſe plants. For this purpoſe, having obtained good ſeeds, ſow them on a moderate hotbed in the beginning of March. The plants will ſoon come up, when they ſhould have as much free air as poſſible; for they will be ruined by being too much drawn. They muſt be hardened by degrees; and when all danger of froſt is over, they ſhould be planted out in rows, in beds about four feet and a half broad. Moiſt weather, if poſſible, ſhould be choſen for this performance; and if the weather comes hot immediately after, they ſhould be ſhaded until they have taken good root. This will not be long; for I would adviſe taking up as much mould with them as poſſible; and let the operation be made with the utmoſt diſpatch. In July they will flower, and continue ſo for ſome months. The ſeeds of the earlieſt flowers will be ripe in the autumn, when they ſhould be carefully gathered, and preſerved until the ſpring following for ſowing.

In order to have theſe roots continue for two or more years, ſow the ſeeds early in April, upon a moderate hotbed, and prick them out as before, forming a bed of them in a dry ſoil and warm ſituation. As they begin to ſpindle for flowering, nip them off, and continue to do ſo, not permitting them to flower the firſt ſummer. There will be no danger of theſe plants being killed, for they are naturally very hardy, and the ſummer following they will produce the moſt perfect blow. From theſe the beſt ſeeds are to be gathered; and from theſe alſo offsets may be taken in July, which will grow, and become good plants; and by this way alſo the ſtock may be kept up for many years.

Annual Sweet William,

2. Annual Sweet William. The leaves of this ſpecies are narrow. The flower-ſtalks are upright, and ariſe to about a foot in height. The flowers form a ſmall head at the end of the ſtalk; they are of a pale-red colour, and have obtuſe, oval ſcales to the calyx.

German Pink,

3. German Pink. The leaves are very narrow. The ſtalks are ſlender, low, and branching. The flowers grow ſingly, are ſhort, and hardly apparent at the calyx; they will be in blow in July, and the ſeeds ripen in September.

and Superb Pink deſcribed.

4. Superb Pink is a Biennial. The radical leaves are numerous, narrow, and of a blueiſh-green colour. The ſtalk is erect, and garniſhed with leaves placed oppoſite at the joints. The flowers are produced in panicles from the tops of the ſtalks; their calycinal ſcales are very ſhort, and the edges of the petals are cut into a multitude of very narrow ſegments: They appear in June and July, and the ſeeds ripen in September.

Culture.

Theſe ſorts are eaſily raiſed by ſowing the ſeeds on a common hotbed in March; and after the plants come up, give them much air, and harden them by degrees. In May, plant them out in beds, like the other ſorts, water them in dry weather, keep them clean from weeds; and this is all the nurſing they will require. A few plants of the ſecond and third ſorts, to encreaſe the variety, will be ſufficient; but the Superb Pink is very beautiful, exceedingly fragrant, and deſerving of a place in every good collection.

Titles. Chinenſis.

1. The China Pink is titled, *Dianthus floribus ſolitariis, ſquamis calycinis ſubulatis patulis tubum æquantibus, corollis dentatis.* Tournefort calls it, *Caryophyllus Sinenſis ſupinus, leucoji folio, flore unico.* It is a native of China.

Proliferus.

2. Annual Sweet-William is, *Dianthus floribus aggregatis capitatis, ſquamis calycinis ovatis obtuſis muticis tubum ſuperantibus.* In the *Hortus Upſal.* it is termed, *Dianthus floribus aggregatis, capitulo magno, ſquamis calycinis ovatis obtuſis magnis.* Caſpar Bauhine calls it, *Caryophyllus ſylveſtris prolifer*; Moriſon, *Caryophyllus ſylveſtris annuus, multis capſulis ſimul junctis, donatus.* It grows common in Spain, Italy, many parts of Germany, and the South of France.

Diminutus.

3. German Pink is, *Dianthus floribus ſolitariis, ſquamis calycinis octonis florem ſuperantibus.* Caſpar Bauhine calls it, *Caryophyllo prolifero affinis, unico ex quolibet capitulo flore*; and Tabernæmontanus, *Caryophyllus ſylveſtris minimus.* It grows naturally in Germany.

Superbus.

4. Superb Pink is, *Dianthus floribus paniculatis: ſquamis calycinis brevibus acuminatis, corollis multifido-capillaribus, caule erecto.* Caſpar Bauhine calls it, *Caryophyllus ſimplex alter, flore laciniato odoratiſſimo*; and Cluſius, *Caryophyllus ſylveſtris 6.* It grows naturally in Germany.

* * *

CHAP. CXXIX.

DIGITALIS, FOX-GLOVE.

THE ſeveral ſpecies of this genus are very ſhowy, have great dignity of look, are eaſy of culture, and will grow in almoſt any ſituation. The varieties are numerous, but the real ſpecies are,

Species.

1. The Purple Fox-glove.
2. The Yellow Fox-glove.
3. The Iron-coloured Fox-glove.
4. The Broad-leaved Small Spaniſh Fox-glove.
5. The Narrow-leaved Taller Spaniſh Fox-glove.

Purple Fox-glove deſcribed.

1. Purple Fox-Glove. Of this there are many varieties, and the parent of them all is the Common Red Fox-glove. This plant grows in ſeveral parts of England, particularly in Warwickſhire, where the commons and fields are adorned with them: In the lanes about Nun-Eaton, Anſty, Bedworth-Heath, Coventry, &c. there is no end of them; but their charms are unnoticed by the toiling peaſant. It is a Biennial. The leaves are long, broad, rough, and hairy. The ſtalk is upright, firm, and will grow to about a yard high. It is garniſhed with the ſame ſort of leaves as the radical one, though narrower and ſmaller; and the top is garniſhed with a long, looſe thyrſe of theſe ſhowy flowers: Theſe are placed on one ſide of it, are of a reddiſh-purple colour, with white ſpots on the under-lip; they will be in blow in June and July, and produce ripe ſeeds in Auguſt and September.

Of this ſpecies there are the following varieties, which uſually retain their difference from ſeeds:

Varieties.

The White Fox-Glove,
The Purple Fox-glove,
The Dwarf Red.

The laſt of theſe ſpecies ſeldom grows higher than about a foot.

Yellow Fox-glove deſcribed.

2. Yellow Fox-glove. Of this alſo there are ſeveral varieties; ſuch as, the Large-flowering Yellow Fox-glove, the Small Yellow, and the Cream coloured Fox-glove. In the leaves alſo there is ſome difference; but they are all ſpear-ſhaped, ſoft, obtuſe, and thoſe on the ſtalks are very narrow. The ſtalk is upright, firm, and will grow to be two feet high. The upper part

of it is adorned with the flowers, ranged on one ſide of it; the beſt ſorts are of a bright-yellow colour; they will be in blow in June and July, and ripen their ſeeds in the autumn.

Iron-coloured Fox-glove deſcribed. 3. The Iron-coloured Fox-glove is much eſteemed in our gardens. The leaves are ſmaller than thoſe of the Common Purple Fox-glove, but the ſtalk riſes in our hungry white clays at Gumley to be upwards of eight feet high; a thing not common in other and richer ſoils, its uſual growth being from three to four feet. The top is adorned with the flowers near a yard long: Theſe are ſmall, and of a ruſty-iron colour; they will be in blow from June to the end of the ſummer-months; and good ſeeds from the firſt-blown flowers may be gathered in the autumn.

Varieties. There are two or three varieties of this ſpecies; one with a very branching ſtalk, and another of very low growth, called the Dwarf Iron-coloured Fox-glove.

Broad-leaved Small Spaniſh, 4. Broad-leaved Small Spaniſh Fox-glove hath many ſoft, woolly, veined, oval, ſpear-ſhaped, ſerrated leaves. The ſtalk will grow to about a foot high, and is garniſhed with leaves like the radical ones, but ſmaller, and run one into another. The flowers ornament the top in a ſhort thyrſe; they grow on one ſide, are of a purple colour, with pale-red ſpots about the mouth; they will be in blow in June and July, and ripen their ſeeds in the autumn.

Sometimes the root of this plant will continue longer than two years.

and Narrow-leaved Taller Spaniſh Fox-glove deſcribed. 5. Narrow-leaved Taller Spaniſh Fox-glove. The leaves are narrow, ſmooth, and ſpear-ſhaped. The ſtalk is very robuſt, woody, and ſends out a few ſide-branches oppoſite to each other. The flowers are of a very bad purple inclined to a blackiſh colour; they adorn the tops of the ſtalks for a great length; they will be in blow in July, and ripen their ſeeds in the autumn.

Culture. All theſe ſorts are eaſily propagated by ſowing the ſeeds in the autumn, ſoon after they are ripe; for if they are let alone until the ſpring, they often fail growing that year. They bear tranſplanting very well; but the beſt way is to ſow them where they are to remain, and thin them to proper diſtances, as they will look better the ſummer following in the leaf, and flower ſtronger the ſummer after that. For the firſt ſummer after ſowing they form themſelves into a beautiful head or tuft of leaves; and the ſecond year the ſtalk riſes and produces the flowers: The roots, for the moſt part, die after that; eſpecially if they are in a rich ſoil; but the laſt two ſorts frequently ſhoot out afreſh from the root, and continue ſome years.

Any ſoil or ſituation will do for them; and after having once obtained a ſtock, a ſufficient number of fine plants will ariſe from ſcattered ſeeds, and the ſucceſſion be then kept up without further trouble.

Titles. 1. The Purple Fox-glove is titled, *Digitalis calycinis foliolis ovatis acutis, corollis obtuſis: labio ſuperiore integro* In the *Hortus Cliffort.* it is termed, *Digitalis foliolis calycinis ovatis.* Caſpar Bauhine calls it, *Digitalis purpurea, folio aſpero*; and Dodonæus, *Digitalis purpurea.* It grows common upon hungry ſoils in moſt of the ſouthern parts of Europe. Purpurea.

2. Yellow Fox-glove is, *Digitalis calycinis foliolis lanceolatis, corollis acutis: labio ſuperiore bifido.* In the *Hortus Cliffort.* it is termed, *Digitalis foliis calycinis ſubulatis, floribus imbricatis.* Caſpar Bauhine calls it, *Digitalis major lutea, ſive pallida, parvo flore*; and Moriſon, *Digitalis lutea, minore flore.* It grows naturally in France and Italy. Lutea.

3. Iron-coloured Fox-glove is, *Digitalis calycinis foliolis ovatis obtuſis, corollæ labio inferiore longitudine floris* Van Royen calls it, *Digitalis foliolis calycinis ovatis obtuſis*; Caſpar Bauhine, *Digitalis anguſtifolia, flore ferrugineo*; Moriſon, *Digitalis latifolia, flore ferrugineo*; and Buxbaum, *Digitalis lutea non ramoſa, ſcorzoneræ folio.* It grows naturally in Italy and Conſtantinople. Ferrugi=nea.

4. Broad-leaved Small Spaniſh Fox-glove is, *Digitalis foliis decurrentibus.* Tournefort calls it, *Digitalis Hiſpanica purpurea minor*; Barrelier, *Digitalis, verbaſci folio, purpurea minor perennis Hiſpanica*; and Boccone, *Digitalis, anguſto verbaſci folio, montana.* It is a native of Spain. Thapsi.

5. Narrow-leaved Taller Spaniſh Fox-glove is, *Digitalis foliis lineari-lanceolatis integerrimis glabris baſi adnatis.* Tournefort calls it, *Digitalis Hiſpanica anguſtifolia. flore nigricante*; and Boccone, *Digitalis anguſtifolia Hiſpanica.* It grows naturally in Spain. Obscura.

Claſs and order in the Linnæan Syſtem. The characters. *Digitalis* is of the claſs and order *Didynamia Angioſpermia*; and the characters are,

1. Calyx is a perianthium divided into five roundiſh, acute, permanent ſegments, of which the upper one is the narroweſt.

2. Corolla is a bell-ſhaped petal. The tube is large, patent, and ventricoſe, with a cylindrical, contracted baſe. The limb is ſmall, and divided into four parts, of which the upper ſegment is more patent than the others, and indented; but the lower-lip is the largeſt.

3. Stamina are four ſubulated filaments inſerted in the baſe of the corolla, with bipartite, acuminated antheræ. Of theſe filaments, two are longer than the others.

4. Pistillum conſiſts of an acuminated germen, a ſimple ſtyle the ſituation of the ſtamina, and an acute ſtigma.

5. Pericarpium is an oval, acuminated capſule, formed of two valves, contains two cells, and, as the ſeeds ripen, opens on both ſides.

6. Semina. The ſeeds are ſmall, numerous, and angular.

CHAP. CXXX.

DIPSACUS, The TEAZEL.

THERE are only three ſpecies of this genus, all of which ſhould be conſidered as Biennials, called,

Species.
1. Fullers Teazel.
2. Jagged-leaved Teazel.
3. Small Wild Teazel.

Deſcription of Fullers

1. Fullers Teazel is a variety of the Common Wild Teazel, which is found growing on dry banks in moſt parts of England. The root is thick, white, and ſtrikes deep into the ground. The ſtalks are upright, firm, armed with ſtrong, crooked prickles, and four or five feet high. The leaves are large, more than a foot long, pointed, ſerrated, prickly, of a light-green colour, grow oppoſite, and ſurround the ſtalk with their baſe, forming there a baſon, which is frequently full of rain-water. The flowers terminate the ſtalks and ſmaller branches in large conical heads; they are of a reddiſh colour, appear in June and July, and the ſeeds ripen in September.

and Jagged-leaved Teazel.

2. Jagged-leaved Teazel. The ſtalks riſe to about a yard high; they are upright, branching, and armed with ſpines. The leaves are long, narrow, jagged at the edges, prickly, grow oppoſite by pairs, and ſurround the ſtalk with their baſe. The flowers terminate the ſtalks in ſmooth, oval heads; they are of a purple colour, appear in June and July, and the ſeeds ripen in September.

Variety.

There is a variety of this ſpecies with ſinuated leaves.

Small Wild Teazel deſcribed.

3. Small Wild Teazel. The ſtalk is upright, branching, and full of ſtrong, crooked thorns. The leaves are long, narrow, ſerrated, prickly on the back part, eared at their baſe, grow oppoſite, but do not ſurround the ſtalk with their baſe. The flowers are collected in ſmall, roundiſh heads, and form the appearance of ſome of our Thiſtles; they are of a whitiſh or reddiſh colour, appear in July, and the ſeeds ripen in the autumn.

Culture.

Theſe plants are eaſily propagated by ſowing the ſeeds in the ſpring in the places where they are to remain. When they come up, they ſhould be thinned, leaving the largeſt at leaſt a foot and a half diſtant from each other, and the ſmaller a foot or more. All ſummer the ground ſhould be kept clean from weeds, and the ſummer following the plants will flower, and perfect their ſeeds, ſoon after which the roots decay.

The firſt ſort is cultivated in the Weſt of England in great plenty for the Fullers uſe, to whom it is highly ſerviceable for raiſing the knap upon woollen cloth. The ſeed is generally ſown by broad-caſt in March; and after the plants come up, they are hoed in the manner of Turneps, leaving them about a foot aſunder every way. This hoeing ſhould be performed in dry weather, the more effectually to kill the weeds. If they ariſe again in ſuch plenty as to incommode the plants, a ſecond hoeing ſhould be repeated; and at the ſame time a further thinning of the plants may be made, if the land is rich and good; or all thoſe which had eſcaped the hoe the former time, may be now taken out. Long before the autumn, your plants will have grown ſtrong enough to defend themſelves from weeds. During the winter they will form an healthy, bold, and lively appearance, the leaves being large, and of an elegant green colour; in the ſpring the ſtalks will advance for flowering, which will be in July; and in Auguſt the heads will be fit to be cut for uſe. When they are cut, they are generally tied in bundles, and ſet in the ſun, or a warm airy place to dry. A peck of ſeed is ſufficient to ſow an acre; and a good crop of an acre, when cut and tied in bundles, will be worth about eight pounds; to ſuch an advantage may land be brought, where ſuch a commodity is wanted! However, this is not peculiar to all countries, but to thoſe only where cloth manufactures are carried on.

Titles.

1. The Fullers Teazel is titled, *Dipſacus foliis ſeſſilibus ſerratis*. In the *Hortus Upſal.* it is termed, *Dipſacus foliis connato-perfoliatis*; in the *Hortus Cliffort. Dipſacus capitulis florum conicis.* Hudſon calls it, *Dipſacus foliis ſeſſilibus ſerratis, ariſtis fructûs recurvis*; Caſpar Bauhine, *Dipſacus ſylveſtris aut virga paſtoris major*; alſo, *Dipſacus ſativus*; Dodonæus, *Dipſacus ſylveſtris*; and Lobel, *Carduus fullonum.* It grows naturally in England, France, and Italy. Fullo=num.

2. Jagged leaved Teazel is, *Dipſacus foliis connatis ſinuatis.* Caſpar Bauhine calls it, *Dipſacus folio laciniato.* It grows naturally in Alſace. Lacini=atus.

3. Small Wild Teazel is, *Dipſacus foliis petiolatis appendiculatis.* In the *Hortus Cliffort.* it is termed, *Dipſacus capitulis florum ſubgloboſis.* Caſpar Bauhine calls it, *Dipſacus ſylveſtris: capitulo minore, ſ. virga paſtoris minor*; Dodonæus, *Dipſacus tertius*; Gerard, *Dipſacus minor, ſeu virga paſtoris*; and Parkinſon, *Virga paſtoris.* It grows naturally in England and France. Pilosus.

Claſs and order in the Linnæan Syſtem.

Dipſacus is of the claſs and order *Tetrandria Monogynia*; and the characters are,

The characters.

1. CALYX. The general perianthium contains many flowers, and is compoſed of many narrow, permanent leaves, which are longer than the florets. The proper perianthium is ſituated above the germen, and is ſcarcely viſible.

2. COROLLA conſiſts of one tubular petal divided at the brim into four erect ſegments, of which the exterior one is larger, and more acute than the others.

3. STAMINA are four capillary filaments longer than the corolla, having incumbent antheræ.

4. PISTILLUM conſiſts of a germen ſituated below the flower, a filiforme ſtyle the length of the corolla, and a ſimple ſtigma.

5. PERICARPIUM. There is none.

6. SEMINA. The ſeeds are ſingle, column-ſhaped, and coronated, with an undivided, calycinal border.

The general receptacle is conical, and divided into partitions by a multitude of long, prickly paleæ.

CHAP.

CHAP. CXXXI.

DOLICHOS.

Species. OF this genus are,
1. Ægyptian *Dolichos* of *Lablab.*
2. Chineſe *Dolichos.*
3. American *Dolichos.*
4. Ariſtated *Dolichos.*

Deſcription of Ægyptian 1. Ægyptian *Dolichos* of *Lablab.* The ſtalks are weak, taper, branching, and twiſt about any thing that is near them for ſupport. The leaves are large, pointed, and ſomewhat like thoſe of the Common Kidney-bean. The flowers come out in cluſters from the ſides of the branches; they are of a white colour, appear in Auguſt, and are ſucceeded by pods, containing ripe ſeeds, in the autumn.

Chineſe, 2. Chineſe *Dolichos.* This riſes with a weak, winding ſtalk to a conſiderable height. The leaves are large, pointed, and of a deep green colour. The flowers are produced in conſiderable large erect bunches from the upper-parts of the plant; they appear in July and Auguſt, and are ſucceeded by pendulent pods, containing ripe ſeeds, in the autumn.

American 3. American *Dolichos.* This plant twiſts about trees, in the manner of the former, and if ſupported arrives at a great height. The leaves are pretty large, of a good green colour, and much like thoſe of the Common Kidney-bean. The flowers are produced from the ſides of the branches in July and Auguſt; they are of a pale-red or browniſh colour, and are followed by extremely long, ſmooth pods, containing the ſeeds.

and Ariſtated Dolichos. 4. Ariſtated *Dolichos.* The ſtalks are taper and climbing, in the manner of the others. The leaves are oval, oblong, ſharp-pointed, and ſmooth. The flowers are produced, two or three together, on footſtalks ariſing from the wings of the leaves; they appear about the ſame time with the former, and are ſucceeded by ſhort, narrow, ariſtated pods, containing the ſeeds.

Method of raiſing theſe ſpecies. The ſeeds of all theſe ſorts are ſomewhat like thoſe of the Kidney-bean, but are more oval, and are eat as food by the inhabitants where they abound. If they are ſown the beginning of May in a rich, fine garden-mould, the plants will come up and flower in the autumn; but as plants from ſuch late ſowings rarely ripen their ſeeds, it will be proper to bring them forward by a hotbed in the ſpring. In order to effect this, ſow two or three ſeeds in each pot, and plunge them into a moderate hotbed. When the plants are about two inches high, draw out the weakeſt, and leave one plant only in each pot. Afford them due waterings, and ſufficient air, to prevent their drawing too weak; thruſt ſticks by the ſides of each for their ſupport; harden them by degrees to bear the open air by the end of May; and then turn them out, with the mould at the roots, into the places where they are deſigned to remain. They muſt be well watered and ſhaded at firſt, ſtuck with ſticks like Kidney-beans, and managed accordingly.

If theſe plants are raiſed later in the ſummer, and taken into a temperate bark ſtove, they will continue to flower great part of the winter, and afford plenty of good ſeeds for a ſucceſſion.

Titles. 1. The firſt ſpecies is titled, *Dolichos volubilis, leguminibus ovato-acinaciformibus, ſeminibus ovatis hilo arcuato verſus alteram extremitatem.* Caſpar Bauhine calls it, *Phaſeolus Ægypticus nigro ſemine*; and Alpinus, *Phaſeolus niger Lablab.* It grows naturally in Ægypt. Lablab.

2. The ſecond ſpecies is titled, *Dolichos volubilis, pedunculis multifloris erectis, leguminibus pendulis cylindricis toruloſis.* Rumphius calls it, *Dolichos Sinenſis.* It grows naturally in India. Sinensis.

3. The third ſpecies is, *Dolichos volubilis, leguminibus ſubcylindricis lævibus longiſſimis.* It grows naturally in America. Sesquipedalis.

4. The fourth ſpecies is, *Dolichos volubilis, pedunculis bifloris axillaribus, leguminibus linearibus compreſſis ariſtâ terminali rectâ.* It grows naturally in America. Aristatus.

Dolichos is of the claſs and order *Diadelphia Decandria*; and the characters are, Claſs and order in the Linnæan ſyſtem.

1. Calyx is a very monophyllous, equal perianthium, indented in four parts, the upper denticle being emarginated.

The characters. 2. Corolla is papilionaceous. The vexillum is large, roundiſh, emarginated, reflexed, and has two oblong, parallel, longitudinal, ſkinny, callous parts, growing to the baſe, and preſſing the wings. The alæ are oval, obtuſe, and the length of the carina. The carina is lunular, compreſſed, and the length of the alæ.

3. Stamina are diadelphous filaments, with ſimple antheræ.

4. Pistillum conſiſts of a linear, compreſſed germen, a riſing ſtyle, and a barbated ſtigma.

5. Pericarpium is a large, oblong, acuminated pod, formed of two valves, and containing two cells.

6. Semina. The ſeeds are many, elliptical, and uſually compreſſed.

CHAP. CXXXII.

DRABA.

Species. THE ſhort-lived ſpecies of this genus are uſually called,

1. Common Whitlow-graſs.
2. Speedwell-leaved Whitlow-graſs.
3. Hairy Alpine Whitlow-graſs.
4. Wreathen-podded Whitlow-graſs.

Common Whitlow-graſs deſcribed. 1. Common Whitlow-graſs is a weed growing naturally upon walls and arid places in moſt parts of England. The root conſiſts of a few fibres, which ſtrike into the crevices of rocks, old walls, &c. The leaves are ſmall, ſpear-ſhaped, hairy, and ſlightly cut on the edges. The ſtalks are round, naked, and grow to about four or five inches high. The flowers are produced from the tops in long ſpikes; their colour is white; they appear in April, and are ſucceeded by oblong pods, containing ripe ſeeds, in May.

Variety. There is a variety of this ſpecies with jagged leaves.

Speedwell-leaved, 2. Speedwell-leaved Whitlow-graſs. This ſpecies grows naturally upon walls, ſhady woods, banks, &c. The leaves are heart-ſhaped, and indented. The ſtalks are branching, grow to be ten inches high, and are adorned with leaves, which cloſely embrace them with their baſe. The flowers come out from the tops of the ſtalks in looſe ſpikes; their colour is white; they appear in May, and are ſucceeded by oblong pods, containing ripe ſeeds, in June.

Hairy Alpine, 3. Hairy Alpine Whitlow-graſs. The leaves are oval, hairy, indented, and hoary. The ſtalk riſes to about eight inches high, and is adorned with one ſpear-ſhaped leaf only. The flowers come out from the tops of the ſtalks in kind of ſpikes; their colour is white, and the edges of the petals are indented; they appear in May, and are ſucceeded by ſmooth, oval, oblique, pedicellated pods, containing ripe ſeeds, in June.

an Wreathen-podded Whitlow-graſs deſcribed. 4. Wreathen-podded Whitlow-graſs. This ſpecies is a Biennial, and ſometimes the roots will continue longer. The radical leaves are oblong, hoary, and indented on the edges. The ſtalks are upright, branching, grow to a foot in height, and are cloſely garniſhed with leaves above half their height; but towards the tops they are almoſt deſtitute of theſe ornaments. The flowers are produced in kind of looſe ſpikes from the tops of the ſtalks; their colour is white; they appear in June, and are ſucceeded by oblong, twiſted pods, containing ripe ſeeds, in July.

Culture. Theſe ſorts are deemed weeds in many parts, and are rarely admitted into gardens; eſpecially the firſt ſort, which grows naturally upon walls, dry banks, &c. almoſt every-where. They are propagated, however, by ſowing the ſeeds ſoon after they are ripe, or in the autumn. When they have once flowered, they will all of them ſhed their ſeeds, and maintain the ſucceſſion without any trouble, except hoeing them up as weeds, when they appear in improper places.

Titles. 1. Common Whitlow-graſs is titled, *Draba ſcapis nudis, foliis lanceolatis ſubinciſis.* Caſpar Bauhine calls it, *Burſa paſtoris minor, loculo oblongo*; Tournefort, *Alyſſon vulgare, polygoni folio*; Gerard, *Paronychia vulgaris*; and Parkinſon, *Paronychia vulgaris alſines folio.* It grows naturally in dry places in moſt parts of Europe and North America. Verna.

2. Speedwell-leaved Whitlow-graſs is, *Draba caule ramoſo, foliis cordatis dentatis amplexicaulibus.* Caſpar Bauhine calls it, *Burſa paſtoris major loculo oblongo*; John Bauhine, *Burſa paſtoris ſublongo loculo affinis pulchra planta*; Columna, *Draba minima muralis*; and Parkinſon, *Thlaſpi veronicæ folio.* It grows naturally in different ſituations in England, and moſt parts of Europe. Muralis.

3. Hairy Alpine Whitlow-graſs is, *Draba ſcapo unifolio, foliis ſubhirſutis, ſiliculis obliquis pedicellatis.* Haller calls it, *Draba foliis hirſutis incanis ad terram ovatis, ad caulem pauciſſimis dentatis*; and Caſpar Bauhine, *Burſa paſtoris Alpina hirſuta.* It grows naturally on the Alps of Switzerland and Lapland. Hirta

4. Wreathen-podded Whitlow-graſs is, *Draba foliis caulinis numeroſis incanis, ſiliculis oblongis obliquis.* In the *Flora Lapp.* it is termed, *Draba caule ramoſo folioſo, foliis dentatis.* Plukenet calls it, *Leucojum ſeu lunaria vaſculo oblongo intorto*; Petiver, *Lunaria contorta major*; and Ray, *Lunaria vaſculo ſublongo intorto.* It grows naturally on the Alps, and the like ſituations in moſt parts of Europe. Incana.

CHAP.

CHAP. CXXXIII.

DRACOCEPHALUM, DRAGON'S HEAD.

Species.

THE Annuals of this ſpecies are,

1. Moldavian Dragon's Head, or Moldavian Baum.
2. Hoary Oriental Dragon's Head, or Eaſtern Moldavian Baum.
3. Willow-leaved Oriental Dragon's Head.
4. Pendulous-flowered Dragon's Head.
5. Thyme-flowered Dragon's Head.
6. Grand-flowered Dragon's Head.

Moldavian,

1. Moldavian Dragon's Head, or Moldavian Baum. The ſtalks are upright, branching, and grow to about a foot and a half high. The leaves are oblong, ſpear-ſhaped, ſerrated, and grow oppoſite to each other at the joints. The flowers are produced in whorls from the boſom of the leaves at the joints; their colour is blue, though there is a variety with white flowers; they appear in July, and often continue in ſucceſſion until the end of Auguſt, ſoon after which ripe ſeeds from the firſt-blown flowers may be gathered.

This plant is a ſtrong aromatic, and is propagated by many chiefly on account of the balſamic odour it emits, eſpecially when rubbed.

Hoary Oriental,

2. Hoary Oriental Dragon's Head, or Eaſtern Moldavian Baum. The ſtalks are hoary, ſquare, put out a few branches from the ſides, and riſe to a foot and a half high. The leaves are ſpear-ſhaped, hoary, indented, and grow oppoſite to each other at the joints. From the boſom of the leaves the flowers come out in whorls, almoſt the whole length of the ſtalk; their colour is blue, though there is a variety of it with yellow flowers; they appear in July and Auguſt, and the ſeeds ripen in the autumn.

Willow-leaved Oriental,

3. Willow-leaved Oriental Dragon's Head. The ſtalk is upright, about a foot high, and rarely produces any branches from the ſides. The leaves are long, narrow, entire, and grow oppoſite to each other at the joints. From the boſom of the leaves the flowers come out in whorls; they are ſmall, and of a pale-blue colour; they appear in July and Auguſt, and the ſeeds ripen in the autumn.

Pendulous-flowered,

4. Pendulous-flowered Dragon's Head. The ſtalks are ſlender, ſquare, and hardly a foot high. The leaves are oval, ſpear-ſhaped, crenated, and grow oppoſite to each other on moderately long footſtalks. The flowers are produced in whorls at the joints; they are of a deep-blue colour, and hang downward; they appear in July and Auguſt, and the ſeeds ripen in the autumn.

Thyme-flowered

5. Thyme-flowered Dragon's Head. The ſtalks are upright, ſquare, and about a foot and a half high. The lower leaves are oblong, ſpear-ſhaped, pointed, and grow on long footſtalks; they diminiſh in ſize as they approach the top, where they are ſmall, and ſit cloſe, without any footſtalks. The flowers come out in whorls at the joints. The varieties are the Pale-blue, the Pale-purple, and the Blue ſtained with red; they are all ſmall, and of little figure; they make their appearance about the ſame time with the former ſorts, and the ſeeds ripen accordingly.

and Grand-flowered Dragon's Head deſcribed.

6. Grand-flowered Dragon's Head. The ſtalks are upright, ſquare, put out a few branches from the ſides, and grow to about two feet high. The leaves are oval, oblong, obtuſely ſerrated, and grow oppoſite to each other at the joints. The flowers are produced in whorls from the boſoms of the leaves at the joints; they are very large, of a bright-blue colour, and make a good ſhow; they appear about the ſame time with the former ſorts, continue a long time in blow, and the ſeeds ripen in the autumn.

Culture.

Theſe are all very hardy Annuals, and are propagated by ſowing the ſeeds, either in the autumn or ſpring, in the places where they are deſigned to remain. After they come up, they will require no trouble, except thinning them where they are too cloſe, keeping them clean from weeds, and watering them in dry weather. If the ſeeds are ſown in the autumn, they will flower earlier than thoſe ſowed in the ſpring; nevertheleſs plants raiſed in the ſpring will flower early enough to afford ripe ſeeds for a ſucceſſion. Any common mould made fine will do for them, though the richer this is, the ſtronger the plants will be; and if they can have a ſhady ſituation it will be more ſuitable to them, ſhould the ſoil happen to be ſandy, dry, or of a hot nature.

Titles,

1. Moldavian Dragon's Head, or Moldavian Baum, is titled, *Dracocephalum floribus verticillatis, bracteis lanceolatis: ſerraturis capillaceis.* In the *Hortus Cliffort.* it is termed, *Dracocephalum floribus verticillatis, foliis ovato-lanceolatis.* Caſpar Bauhine calls it, *Meliſſa peregrina, folio oblongo*; and Cammerarius, *Meliſſa Moldavica.* It grows naturally in Moldavia. Moldavicum.

2. Hoary Oriental Dragon's Head, or Eaſtern Moldavian Baum, is, *Dracocephalum floribus verticillatis, bracteis oblongis: ſerraturis ſpinoſis, foliis ſubtomentoſis.* In the *Hortus Cliffort.* it is termed, *Dracocephalum floribus verticillatis, foliis lanceolatis, floribus oblongis.* Tournefort calls it, *Moldavica orientalis, betonicæ folio, flore magno, violaceo*; Volkamer, *Sideritis incana, oleæ folio, floſculis ex incarnato candicantibus, Montis Libani*; and Moriſon, *Sideritis annua, flore luteo, utriculis & foliis longioribus.* It grows naturally in the Eaſt. Canescens.

3. Willow-leaved Oriental Dragon's Head, is, *Dracocephalum floribus verticillatis, bracteis orbiculatis ſerrato-ciliatis.* Van Royen calls it, *Dracocephalum floribus verticillatis, foliis floralibus orbiculatis*; and Tournefort, *Moldavica orientalis, ſalicis folio, parvo flore cæruleo.* It grows naturally in the Eaſt. Peltatum.

4. Pendulous-flowered Dragon's Head is, *Dracocephalum floribus verticillatis, bracteis oblongis ovatis integerrimis, corollis majuſculis nutantibus.* Amman calls it, *Moldavica betonicæ folio, floribus minoribus cæruleis pendulis.* It grows naturally in Siberia. Nutans.

Thymi=florum. 5. Thyme-flowered Dragon's Head is, *Dracocephalum floribus verticillatis, bracteis oblongis integerrimis, corollis vix calyce majoribus.* Commeline calls it, *Moldavica orientalis minima, ocymi folio*; Amman, *Moldavica betonicæ folio, floribus minimis pallide cæruleis*; and Van Royen, *Cedronella Tartarica perennis, urticæ foliis, floſculis minoribus ex cæruleo rubentibus.* It grows naturally in Siberia.

Grandi=florum. 6. Grand-flowered Dragon's Head is, *Dracocephalum floribus verticillatis, foliis ovatis inciſo-crenatis, bracteis lanceolatis integerrimis.* Gmelin calls it, *Dracocephalum floribus verticillatis, foliis oblongis obtuſis ſinuato-crenatis, bracteis oblongis.* It grows naturally in Siberia.

C H A P. CXXXIV.

D R Y P I S.

THERE is only one ſpecies of this genus, called, *Drypis.*

The plant deſcribed. The ſtalk is angular, jointed, and branching. The leaves are ſpear-ſhaped, narrow, nearly three-cornered, indented, grow by pairs, and each of them is terminated in a ſharp, prickly point. The flowers come out in umbels from the ends of the branches; they are of a reddiſh colour, and the umbels are guarded with ſpines; they appear in July and Auguſt, and the ſeeds ripen in the autumn.

Variety. There is a variety of this ſpecies with white flowers.

Culture. This plant is a Biennial, and is propagated by ſowing the ſeeds the early part of the ſummer, in the places where they are to remain, which muſt be very warm, light, dry, and well-defended. When they come up, they muſt be thinned where they are too cloſe, conſtantly kept clean from weeds, watered in dry weather, and by the autumn they will be grown to be ſtrong plants; and the ſummer following they will flower, and perfect their ſeeds.

If this plant is ſown too early in the ſpring, the ſtalks will ſhoot up for flowering in the ſummer, and afford no good ſeed for a ſucceſſion.

Titles. Spinosa. There being no other ſpecies of this genus, it is named ſimply, *Drypis.* Micheli calls it, *Drypis Italica aculeata, floribus albis umbellatis compactis.* John Bauhine, *Drypis Theophraſti ſ. anguillaræ*; Caſpar Bauhine, *Spina alba foliis vidua*; and Moriſon, *Carduus foliis tenuiſſime ſpinoſis ad inſtar juniperi.* It grows naturally in Mauritania and Italy.

Claſs and order in the Linnæan ſyſtem. *Drypis* is of the claſs and order *Pentandria Trigynia*; and the characters are,

The characters.

1. CALYX is a monophyllous, tubular, permanent perianthium, indented in five parts at the top.
2. COROLLA is five petals, whoſe ungues are the length of the cup, and limbs divided into five narrow, acute ſegments.
3. STAMINA are five filaments the length of the corolla, having ſimple, oblong, incumbent antheræ.
4. PISTILLUM conſiſts of an oboval germen, and three ſimple, ſpreading ſtyles, with ſimple ſtigmas.
5. PERICARPIUM is a ſmall, roundiſh, unilocular capſule, covered by the calyx.
6. SEMINA. The ſeed is ſingle, bright, and kidney-ſhaped.

CHAP. CXXXV.

ECHINOPS, GLOBE THISTLE.

ONE ſpecies of this genus comes of courſe in this place, called the Annual Globe Thiſtle.

The plant deſcribed.

The ſtalk is upright, firm, white, and grows to about two feet high. The leaves are pinnatifid, being compoſed of many ſpear-ſhaped ſegments, which end in ſpines; they are of a good green colour on the upper ſide, and poſſeſſed of many brown hairs; but underneath they are white and downy. The flowers come out from the tops of the ſtalks in large globular heads; they are of a pale-blue colour; they appear in July, and for the moſt part are ſucceeded by ripe ſeeds in the autumn.

Culture.

This ſpecies is propagated by ſowing the ſeeds in the ſpring, in a bed of common garden mould made fine; they will readily come up, and require no trouble, except thinning them where they are too cloſe, and keeping them clean from weeds.

Some ſeeds alſo ſhould be ſown in the autumn, ſoon after they are ripe, in a warm well-ſheltered place; for theſe will produce plants, which if they ſtand the winter will flower earlier the ſummer following, and be more certain of affording good ſeeds for a ſucceſſion; becauſe if the plants flower late in the ſummer, as they frequently do from the ſpring-ſowing, and the autumn ſhould prove wet, the ſeeds for the moſt part will rot before they come to maturity.

Titles, Strigo-sus.

This ſpecies is titled, *Echinops capitulis faſciculatis, calycibus lateralibus ſterilibus foliis ſupra ſtrigoſis.* Caſpar Bauhine calls it, *Carduus tomentoſus capitulo majore*; Herman, *Scabioſa carduifolia annua*; and Lobel, *Spina alba.* It grows naturally in Spain.

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CHAP. CXXXVI.

ECHIUM, VIPER's BUGLOSS.

OF this genus there is a well-known Annual, called, Cretan Viper's Bugloſs.

This plant admits of two remarkable varieties; namely,

Varieties.

Cretan Broad-leaved Viper's Bugloſs.
Narrow-leaved Cretan Viper's Bugloſs.

Cretan Broad-leaved,

Cretan Broad-leaved Viper's Bugloſs. The ſtalks are ſlender, hairy, branching, about a foot long, and unleſs ſupported lie on the ground. The leaves are ſpear-ſhaped, hairy, three quarters of an inch broad, three inches long, and ſit cloſe, without any footſtalks. The flowers come out in thin ſlender ſpikes from the wings of the leaves; they are of a reddiſh-purple colour; they come out in July, and the ſeeds ripen in September.

and Narrow-leaved Cretan Viper's Bugloſs deſcribed.

Narrow-leaved Cretan Viper's Bugloſs. The ſtalks are warted, rough, hairy, and lie on the ground. The leaves are rather longer than the former ſort, but not much narrower, hairy, often warted, and ſit cloſe, having no footſtalks. The flowers come out from the ends and ſides of the branches in looſe thin ſpikes; they are ſmall, and of a reddiſh-purple colour; they appear in July, and the ſeeds ripen in September.

Culture.

Theſe ſorts are pretty permanent from ſeeds; but in order to keep them diſtinct, the ſeeds ſhould be ſown in different parts of the garden. The beſt time for ſowing them is the autumn, and the plants will flower ſtrong, and perfect their ſeeds earlier the ſummer following; though if they are ſown in the ſpring, they will flower, and often perfect their ſeeds before the early froſts come on. After the ſeeds have once ripened in the garden, you will be pretty ſure of a ſucceſſion of plants without any trouble.

Titles, Creticum.

This ſpecies is titled, *Echium calycibus fruteſcentibus diſtantibus, caule procumbente.* In the *Hortus Cliff.* it is termed, *Echium caule ſimplici, foliis caulinis linearibus, floribus ſpicatis ex alis.* Caſpar Bauhine calls it, *Echium Creticum anguſtifolium rubrum*; alſo, *Echium Creticum latifolium rubrum*; and Cluſius, *Echium Creticum* 1, 2. It grows naturally in Crete; alſo in the Eaſt.

CHAP. CXXXVII.

ELATINE.

OF this genus there is one ſpecies, called Oppoſite-leaved *Elatine.*

The plant deſcribed.

The ſtalks are round, ſmooth, weak, and about five or ſix inches long. The leaves are oval, pointed, and grow oppoſite to each other at the joints. The flowers are produced from the ends and ſides of the ſtalks; they are of a white colour, appear in June and July, and the ſeeds ripen in Auguſt.

Variety.

There is a variety of this ſpecies with red flowers.

Culture.

This is not a cultivated plant, it riſing out of the mud in ditches and overflowed places. Whoever is deſirous, however, of having it near at hand for obſervation, may ſow the ſeeds in ſome ditch or moiſt place, where they will grow, and by ſhedding the ſeeds keep up the ſtock without further trouble.

Title.

Hydro=piper.

This ſpecies is titled, *Elatine foliis oppoſitis.* Buxbaum calls it, *Hydropiper*; Vaillant, *Alſinaſtrum ſerpyllifolium, flore albo tetrapetalo*; alſo, *Alſinaſtrum ſerpyllifolium, flore roſeo tripetalo.* It grows naturally in watery places in moſt countries of Europe.

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CHAP. CXXXVIII.

ERIGERON.

THE Annuals of this genus are uſually called,

Species.

1. Small Viſcous Golden-rod, or Stinking Flea-bane.
2. Sicilian Flea-bane.
3. Canada Flea-Bane.
4. American *Erigeron,* or Groundſel from Buenos Ayres.
5. Virginian *Erigeron.*

Deſcription of Small Viſcous Golden-rod,

1. Small Viſcous Golden-rod, or Stinking Flea-bane. The ſtalks are upright, branching, glutinous, and grow to about a foot high. The leaves are ſpear-ſhaped, entire, a little hairy, glutinous, ſeſſile, grow alternately, and are very ſtrongly ſcented. The flowers are produced in ſmall bunches from the ends of the branches; they are of a pale-yellow colour, appear in July and Auguſt, and the ſeeds ripen in September.

Sicilian

2. Sicilian Flea-bane. The ſtalks are upright, red, branching a little, and grow to about a foot high. The leaves are ſpear-ſhaped, grow alternately, and are of a blackiſh-green colour. The flowers come out from the ends of the branches on footſtalks, which are cloſely ſet with very ſmall, narrow, recurved leaves. The flowers are of a yellow colour, but of little beauty, being deſtitute of thoſe great ornaments to plants of this genus, the rays; they appear in July and Auguſt, and the ſeeds ripen ſoon after.

and Canada Flea-bane

3. Canada Flea-bane. The ſtalks are herbaceous, branching a little, about a foot and a half high, and very hot or biting to the taſte. The leaves are numerous, narrow, and much reſemble thoſe of *Linaria.* The flowers come out in panicles from the ends of the ſtalks; they are ſmall, and of a whitiſh colour; they appear in June, July, and Auguſt, and are ſucceeded by downy ſeeds, which, if permitted to ſcatter, will ſoon ſtock the place with plenty of plants.

and American Erigeron.

4. American *Erigeron,* or Groundſel of Buenos Ayres. The ſtalks are herbaceous, purpliſh, and about a foot and a half high. The leaves are curved at their baſe, and of different figures; the lower ones being moderately large, jagged, and indented, while the upper ones are ſmall, and entire. The flowers come out from the tops of the ſtalks and ſide-branches in ſmall bunches; they are of a purpliſh colour, appear in July and Auguſt, and are ſucceeded by ripe, downy ſeeds ſoon after.

Variety.

There is a variety of this ſpecies with yellow flowers.

Virginian Erigeron deſcribed.

5. Virginian *Erigeron.* The ſtalks are herbaceous, branching, and about a foot and a half high. The leaves are oval, ſpear-ſhaped, ſerrated, hairy, and when bruiſed emit an agreeable odour. The flowers come out from the ends of the branches in ſmall tufts; they are ſmall,

whitiſh, appear in July and Auguſt, and the ſeeds ripen ſoon after.

Variety. There is a variety of this ſpecies with yellow flowers.

Culture. Theſe ſorts are all propagated by ſowing the ſeeds in beds of common garden-mould made fine. This may be effected in the ſpring; but if they are ſown in the autumn, ſoon after they are ripe, they will flower earlier in the ſummer. When the plants come up, they will require no trouble, except thinning them to proper diſtances, and keeping them clean from weeds. After they have once flowered, if the ſeeds are permitted to ſcatter, they will not only afford you plants enough for a ſucceſſion, but will come up in ſuch amazing plenty all over the garden, that they will be as difficult as weeds to extirpate.

Titles. Graveolens. 1. Small Viſcous Golden-rod, or Stinking Flea-bane, is titled, *Erigeron ramis lateralibus multifloris, foliis lanceolatis integerrimis, calycibus ſquarroſis.* Tournefort calls it, *Virga aurea minor, foliis glutinoſis & graveolentibus*; Caſpar Bauhine, *Conyza femina Theophraſti, minor Dioſcoridis*; and Lobel, *Conyza minor vera.* It grows naturally near Montpelier, and in the Eaſt.

Siculum. 2. Sicilian Flea-bane is, *Erigeron calycinis ſquamis inferioribus laxis florem ſuperantibus.* Boccone calls it, *Conyza Sicula annua, foliis atro-virentibus, caule rubente*; Magnol, *Conyza caulibus rubentibus tenuioribus, flore luteo nudo*; and John Bauhine, *Conyzæ ſpecies foliis virgæ aureæ.* It grows naturally in moiſt places in Sicily and the South of France.

Canadense. 3. Canada Flea-bane is, *Erigeron caule floribuſque paniculatis.* Moriſon calls it, *Conyza annua acris alba elatior, linariæ foliis.* It was originally a native of Canada and Virginia, but is now become common in England and moſt of the ſouthern parts of Europe, growing naturally by the ſides of paths, banks, &c.

Bonariense. 4. American *Erigeron*, or Groundſel of Buenos Ayres, is, *Erigeron foliis baſi revolutis.* In the *Hortus Cliffort.* it is termed, *Erigeron foliis inferioribus dentato-laciniatis; ſuperioribus integris.* Dillenius calls it, *Senecio Bonarienſis purpuraſcens foliis imis coronopii.* It grows naturally in South America.

Camphoratum. 5. Virginian *Erigeron* is, *Erigeron foliis lanceolato-ovatis villoſis; ſerraturis apice cartilagineis.* Gronovius calls it, *Baccaris foliis ovato-lanceolatis ſerratis, caule herbaceo.* It grows naturally in Virginia.

CHAP. CXXXIX.

ERVUM, BITTER VETCH.

ALL the ſpecies of this genus are Annuals, called,

Species.
1. Common Lentil.
2. Smooth Tare.
3. Hairy Tare.
4. Spring Tare.
5. One-flowered Lentil.
6. Articulated *Ervum*, or Bitter Vetch.

Deſcription of Common Lentil. 1. Common Lentil. The ſtalks are weak, and about a foot and a half high. The leaves are pinnated and beautiful, each being compoſed of ſeveral pair of narrow folioles, which are terminated by a claſper, by which the plant faſtens itſelf to whatever plant is near it. The flowers uſually grow two together on a footſtalk, from the ſides of the ſtalks, near the top; they are ſmall, and of a pale-purple colour; they appear in July and Auguſt, and are ſucceeded by ſhort flat pods, containing ripe ſeeds, in September.

Its uſes. The ſeeds of this ſpecies are ſometimes uſed in ſoups, on which account this plant is ſometimes raiſed. It is alſo cultivated in ſome parts for fodder, being excellent for cattle of moſt kinds.

Smooth, 2. Smooth Tare. The ſtalks are weak, ſlender, and little more than a foot long. The leaves are ſmall, pinnated, and end in claſpers. The flowers grow two or three together on a footſtalk from the upper parts of the plant; they are ſmall, and of a blueiſh colour; they appear in June and July, and are ſucceeded by ſmooth pods, containing ripe ſeeds, ſoon after.

Hairy, 3. Hairy Tare. The ſtalks are ſlender, weak, and divide into many branches. The leaves are pinnated, being compoſed of four or five pair of narrow folioles, which are terminated by claſpers. The flowers come out from the wings of the leaves, three or four together, and often more, on long ſlender footſtalks; they are of a whitiſh-blue colour, appear in ſucceſſion the greateſt part of the ſummer, and are followed by ſhort hairy pods, containing the ſeeds.

and Spring Tare deſcribed. 4. Spring Tare. The ſtalks are weak, ſlender, and divide into many branches. The wings are pinnated, being compoſed of ſeveral pair of obtuſe folioles, which end in tendrils or claſpers, with which they lay hold on whatever plants are near them. The footſtalks of the flowers alſo are furniſhed with tendrils, and each footſtalk ſupports about two or three flowers. They appear early in the ſummer, and are ſucceeded by pods, containing roundiſh-cornered ſeeds, which ripen ſoon after.

One-flowered Lentil deſcribed. 5. One-flowered Lentil. The ſtalks of this plant are alſo weak, ſlender, angular, and about a foot and a half long. The leaves are pinnated, being compoſed of fourteen or fifteen pair of narrow folioles, which end in claſpers or tendrils. The flowers always come out ſingly on footſtalks from the wings of the leaves; they are ſmall, and of a pale-purple colour; they appear in June and July, and are ſucceeded by ſhort pods, containing ripe ſeeds, ſoon after.

and Articulated Ervum deſcribed. 6. Articulated *Ervum*, or Bitter Vetch. The ſtalks are weak, angular, divide into a few branches, and grow to about a foot and a half high. The leaves are compoſed of fourteen or fifteen pair of narrow folioles, and much reſemble thoſe of the Common Vetch, though the folioles are ſmaller. The flowers come out, two or three together, on a footſtalk from the ſides of the branches; they are of a paleiſh colour, and moderately large; they appear in June and July, and are ſucceeded by jointed pods, containing the ſeeds.

Its uſe. This plant is deemed admirable for feeding of cattle, on which account it is cultivated in ſome parts.

Culture. All theſe ſorts are propagated by ſowing the ſeeds in drills, two feet aſunder, in the ſpring. When they come up, the mould ſhould be drawn up to the ſtalks, as you do peaſe. Some ſticks ſhould be thruſt down for their ſupport, and afterwards they will require no trouble; for they will then flower, and perfect their ſeeds; which, if permitted to ſcatter, will grow and produce plants, that will flower very early the ſummer following.

Titles. Lens. 1. Common Lentil is titled, *Ervum pedunculis ſubbifloris, ſeminibus compreſſis convexis.* In the *Hortus Upſal.* it is termed, *Cicer pedunculis bifloris, foliolis integerrimis, ſtipulis indiviſis*; in the *Hortus Cliffort. Cicer pedunculis bifloris, ſeminibus compreſſis.* Caſpar Bauhine calls it, *Lens vulgaris*; and Dodonæus, *Lens.* It grows naturally among the corn in ſome parts of France.

Tetra-spermum. 2. Smooth Tare is, *Ervum pedunculis ſubbifloris, ſeminibus globoſis quaternis.* Caſpar Bauhine calls it, *Vicia ſegetum, ſingularibus ſiliquis glabris*; and Moriſon, *Vicia minor ſegetum, cum ſiliquis paucis glabris.* It grows naturally in corn-fields in England, and moſt countries of Europe.

Hirsutum. 3. Hairy Tare is, *Ervum pedunculis multifloris, ſeminibus globoſis binis.* In the *Hortus Cliffort.* it is termed, *Cicer pedunculis multifloris, ſeminibus globoſis.* Caſpar Bauhine calls it, *Vicia ſegetum cum ſiliquis plurimis hirſutis*; Rivinus, *Cracca minor*; Gerard, *Vicia ſylveſtris, ſeu cracca minima*; and Parkinſon, *Aracus, ſeu cracca minor.* It grows naturally by the borders of fields, among corn, &c. in England, and moſt countries of Europe; alſo in the Eaſt.

4. Spring Tare is, *Ervum pedunculis ſubbifloris ariſtatis, petiolis acuminatis, foliolis obtuſis.* Guettard calls it, *Vicia pedunculis uni-biſfloriſve, petiolis diphyllis breviſſimè cirrhoſis*; Moriſon, *Vicia præcox verna minima Solonienſis, ſemine hexaedro*; Tournefort, *Vicia minima præcox Parienſium*; and Rivinus, *Vicia minima.* It grows naturally in England, and about Paris and Montpelier. Soloniense.

5. One-flowered Lentil is, *Ervum pedunculis unifloris.* In the *Hortus Upſal.* it is termed, *Vicia pedunculis unifloris, foliolis integerrimis, ſtipulis alternis dentatis.* Herman calls it, *Lens monanthos.* It grows naturally in Aſia. Monanthos.

6. Articulated *Ervum*, or Bitter Vetch, is, *Ervum germinibus undulato-plicatis foliis impari-pinnatis.* In the *Hortus Cliffort.* it is termed, *Ervum leguminibus pendulis.* Caſpar Bauhine calls it, *Orobus ſiliquis articulatis, flore majore*; and Cammerarius, *Ervum.* It grows naturally in France, Spain, Italy, and the Eaſt. Ervilia.

Claſs and order in the Linnæan ſyſtem. *Ervum* is of the claſs and order *Diadelphia Decandria*; and the characters are,

The characters. 1. Calyx is a perianthium almoſt as long as the corolla, divided into five equal, narrow, ſharp-pointed ſegments.

2. Corolla is papilionaceous.

The vexillum is large, roundiſh, plane, and ſlightly reflexed.

The alæ are obtuſe, and about half the length of the vexillum.

The carina is pointed, and ſhorter than the alæ.

3. Stamina are diadelphous. Nine of the filaments are joined in a body, the other ſtands ſingly. Their antheræ are ſimple.

4. Pistillum conſiſts of an oblong germen, a ſimple riſing ſtyle, and an obtuſe beardleſs ſtigma.

5. Pericarpium is an oblong, obtuſe, taper, and ſeemingly jointed pod.

6. Semina. The ſeeds are four, and nearly round.

CHAP. CXL.

ERYSIMUM, HEDGE MUSTARD.

THE Annuals of this genus are uſually called,

Species.
1. Common Hedge Muſtard.
2. Treacle Wormſeed.
3. Spaniſh Hedge Muſtard.

Common Hedge Muſtard deſcribed. 1. Common Hedge Muſtard. The ſtalks are round, pliant, tough, branching, and grow to about two feet high. The leaves are long, deeply ſinuated on both ſides, and of a duſky greyiſh green colour. The flowers are produced in ſpikes from the tops of the branches; they are ſmall, and of a yellow colour; they appear in June and July, and are ſucceeded by narrow looſe pods, containing ripe ſeeds, ſoon after.

Medicinal uſes of it. This plant, eſpecially the ſeeds, is frequently uſed in medicine, and is ſaid to be admirable in the cure of the Jaundice.

Treacle Wormſeed, 2. Treacle Wormſeed. The ſtalks are very tough, pliant, branching, and about two feet high. The leaves are ſpear-ſhaped, entire, and of a duſky-green colour. The flowers come out in ſpikes from the upper-parts of the branches; they are ſmall, and of a yellow colour; they appear in May and June, and are ſucceeded by long narrow pods, containing the ſeeds, which are ſmall, yellowiſh, and very bitter to the taſte.

and Spaniſh Hedge Muſtard deſcribed. 3. Spaniſh Hedge Muſtard. The ſtalks of this plant are angular, tough, branching, and about two feet high. The leaves are ſpear-ſhaped, and their edges are indented. The flowers are produced in long ſpikes, which come out oppoſite to the leaves from the ſides of the ſtalks; they are very ſmall, and of a yellow colour; they appear in June and July, and are ſucceeded by long ſlender pods, containing ripe ſeeds, in September.

Method of propagation. The firſt two ſorts grow common by way-ſides, on banks, old walls, &c. and whenever they appear in a garden, are uſually extirpated as weeds; but the third, being of foreign growth, tho' of little beauty, is cultivated as an Annual in ſome gardens where a general collection of plants is coveted.

They are all raiſed by ſowing the ſeeds, ſoon after they are ripe, in any ſoil or ſituation, for nothing comes amiſs to them. After they have once flowered, and perfected their ſeeds, the greateſt trouble will be to extirpate the redundant plants, and continue a few only in the worſt part of the garden, to be ready for obſervation.

Titles. Officinale. 1. Common Hedge Muſtard is titled, *Eryſimum ſiliquis ſpicæ adpreſſis, foliis runcinatis.* Caſpar Bauhine calls it, *Eryſimum vulgare*; Fuchſius, *Verbena mas*; Ray, *Eruca hirſuta, ſiliquâ caule appreſſâ, Eryſimum dicta*; and Gerard, *Eryſimum Dioſcoridis, Lobelii.* It grows naturally in England, and moſt parts of Europe.

Cheiranthoides. 2. Treacle Wormſeed is, *Eryſimum foliis lanceolatis integerrimis.* Guettard calls it, *Turritis foliis integris lanceolatis*; Caſpar Bauhine, *Myagrum ſiliquâ longâ*; John Bauhine, *Myagro affinis planta ſiliquis longis*; Gerard, *Camelina*; and Lobel, *Camelina, myagrum alterum thlaſpi effigie.* It grows naturally in England, and moſt parts of Europe.

Repandum. 3. Spaniſh Hedge Muſtard is, *Eryſimum foliis lanceolatis dentatis, racemis oppoſitifoliis, racemoſis ſubſeſſilibus, corollis minutis.* It grows naturally in the corn-fields of Spain and Bohemia.

CHAP.

CHAP. CXLI.

EVOLVULUS.

Species.

OF this genus are,
1. Small Indian *Evolvulus.*
2. Chickweed *Evolvulus.*
3. Flax-leaved *Evolvulus.*
4. Tricuſpidated *Evolvulus.*

Deſcription of Small Indian,

1. Small Indian *Evolvulus.* The ſtalks are tender, weak, and divide into many ſlender branches, which ſpread themſelves on the ground. The leaves are heart-ſhaped, obtuſe, mucronated, hairy, and grow on footſtalks. The flowers come out ſingly on footſtalks from the wings of the leaves, are of an elegant blue colour, appear in July and Auguſt, and the ſeeds ripen in the autumn.

Chickweed,

2. Chickweed *Evolvulus.* The ſtalks are extremely ſlender, and divide into many ſpreading branches, which lie on the ground. The leaves are nearly heart-ſhaped, oval, obtuſe, hairy, and grow alternately on ſhort footſtalks. The flowers come out on footſtalks from the ſides of the branches. Each footſtalk, for the moſt part, ſupports three flowers, though ſometimes they bear only two, and occaſionally but one: They are of a light-blue colour, appear in July, and the ſeeds ripen in the autumn.

Flax-leaved,

3. Flax-leaved *Evolvulus.* The ſtalk is herbaceous and erect. The leaves are ſpear-ſhaped, hairy, and ſit cloſe to the ſtalk. The flowers are produced uſually three together on long, ſlender footſtalks, ariſing from the wings of the leaves; they appear in July, and the ſeeds ripen in the autumn.

and Tricuſpidated Evolvulus

4. Tricuſpidated *Evolvulus.* This is a ſmall, procumbent plant. The leaves are narrow, wedge-ſhaped, and tricuſpidated. The flowers are produced on footſtalks from the wings of the leaves, appear in July, and the ſeeds ripen in the autumn.

Method of propagating them.

Theſe ſpecies are all raiſed by ſowing the ſeeds on a good hot-bed early in the ſpring. The plants muſt be very tenderly treated after they come up; and when they are fit to remove, they muſt be planted ſeparately in pots filled with rich garden-mould, and plunged into a freſh hot-bed. When they have commenced a good growing ſtate, they muſt be hardened by degrees to bear the open air; and about the end of June they may be turned out, with the mould at the roots, into ſome warm, well-cultivated, rich border, where they muſt be ſhaded at firſt, and duly watered; and if the weather proves favourable, they will perfect their ſeeds.

In order the better to enſure good ſeeds for a ſucceſſion, it will be adviſeable to keep a few plants of each ſpecies under glaſſes, to be covered in caſe an unpropitious ſeaſon ſhould ſet in.

The third ſpecies is more properly an Annual, and generally dies in the autumn; but the others, if they have the covering of a ſtove, will flower great part of the winter, and their ſeeds will ripen in ſucceſſion.

Titles.

1. The firſt ſpecies is titled, *Evolvulus foliis cordatis obtuſis mucronatis petiolatis villoſis, caule diffuſo, pedunculis unifloris.* It grows naturally in India.

Gange-ticus.

2. The ſecond ſpecies is, *Evolvulus foliis obcordatis obtuſis petiolatis piloſis, caule diffuſo, pedunculis trifloris.* In the *Hortus Cliffort.* it is termed, *Convolvulus foliis ovatis obtuſis, caule filiformi.* Burman calls it, *Anagallis hirſuta minor, foliis alternis, floribus ſolitariis*; and Rheede, *Viſtnu-clandi.* It grows naturally in Malabar, Ceylon, Biſnagar, and Bahama.

Alsino-ides.

3. The third ſpecies is, *Evolvulus foliis lanceolatis villoſis ſeſſilibus, caule erecto, pedunculis trifloris longis.* Brown calls it, *Convolvulus herbaceus erectus, foliis linearibus pedunculis longis tenuiſſimis bibracteatis alaribus.* It grows naturally in Jamaica.

Linifo-lius.

4. The fourth ſpecies is, *Evolvulus foliis lineari-cuneiformibus tricuſpidatis, baſi dilatatâ dentatis.* Rheede calls it, *Sendera-clandi*; Plukenet, *Convolvulus minor procumbens, acetoſellæ foliis tricuſpidatis*; alſo, *Convolvulus, Indicus minor, foliorum apicibus lunulatis.* It grows naturally in India.

Triden-tatus.

Claſs and order in the Linnæan Syſtem. The characters.

Evolvulus is of the claſs and order *Pentandria Tetragynia*; and the characters are,

1. Calyx is a perianthium compoſed of five ſpear-ſhaped, acute, permanent leaves.

2. Corolla is one rotated, plicated petal, cut at the brim into five ſegments.

3. Stamina are five capillary, patent filaments, nearly as long as the corolla, having oblongiſh antheræ.

4. Pistillum conſiſts of a ſubglobular germen, and four capillary, diverging ſtyles the length of the ſtamina, with ſimple ſtigmas.

5. Pericarpium is a ſubglobular capſule formed of four valves, and containing four cells.

6. Semina. The ſeeds are ſingle, roundiſh, and angular on one ſide.

CHAP.

CHAP. CXLII.

EUPHORBIA, The BURNING THORNY PLANT.

THE ſpecies which more peculiarly deſerve to be ſtationed in this place are;

Species.

1. Corn Spurge.
2. Sun Spurge, or Wart Wort.
3. Serrated Spurge.
4. Broad-leaved Spurge.
5. Dwarf Spurge.
6. Petty Spurge.
7. Spaniſh Spurge
8. Myrtle-leaved *Euphorbia.*
9. *Polygonum*-leaved *Euphorbia.*
10. Small Purple Sea Spurge.
11. *Chamæſyce*, or Spurge Thyme.
12. Hoary Spurge.
13. Small-flowered Spurge.
14. Heterophyllous Spurge.
15. Campeachy *Euphorbia.*
16. *Hypericum*-leaved Spurge.
17. Rough Indian *Euphorbia.*
18. Thyme-leaved Indian Spurge.
19. Spotted Spurge.
20. Greater *Lathyris* or *Capatutia.*

Deſcription of Corn,

1. Corn Spurge. The ſtalk is upright, ſlender, full of a milky juice, and about a foot and a half high. The leaves are numerous, long, narrow, ſpear-ſhaped, and grow alternately on every ſide of the ſtalk. The flowers come out from the tops of the ſtalk in umbels, which are divided into five principal parts; they make their appearance in July, and the ſeeds ripen in Auguſt.

Sun,

2. Sun Spurge, or Wart Wort. The ſtalk is upright, uſually ſends forth two or three branches from the ſides near the bottom, grows to about a foot high, is full of a milky juice, and covered with a reddiſh bark. The leaves are wedge-ſhaped, ſerrated, and of a bluiſh-green colour. The flowers terminate the main-ſtalk and branches in umbels, conſiſting of five diviſions; they are of a greeniſh-yellow colour, appear in June and July, and the ſeeds ripen in Auguſt.

Serrated,

3. Serrated Spurge. The ſtalk is upright, often reddiſh near the bottom, milky within, and grows to about a foot and a half high. The leaves are heart-ſhaped, ſerrated, and embrace the ſtalk with their baſe. The flowers are produced in the like kind of umbels with the former ſpecies; they appear in July, and the ſeeds ripen in Auguſt.

Broad-leaved,

4. Broad leaved Spurge. The ſtalk is thick, upright, and a little more than a foot high. The leaves are very broad, ſpear-ſhaped, ſerrated, ſeſſile, and placed alternately all round the ſtalk. The flowers terminate the ſtalk in umbels, nearly of the ſame properties with thoſe of the former ſpecies; they are of a purpliſh-yellow colour, appear in July, and the ſeeds ripen in Auguſt or September.

Dwarf,

5. Dwarf Spurge. The ſtalks are ſlender, branching, milky, and about ſix inches high. The leaves are numerous, narrow, and grow alternately all round the ſtalk. The flowers terminate the ſtalks and branches in trifid umbels, are very ſmall, yellowiſh, appear in July and Auguſt, and are ſucceeded by ſmall, roundiſh capſules, containing ripe ſeeds, in Auguſt and September.

Petty,

6. Petty Spurge. The ſtalk is very ſlender, weak, branching, milky, and about ſix inches long. The leaves are oval, entire, ſmall, and placed alternately on ſhort footſtalks. The flowers come out in trifid umbels from the ends of the branches, are ſmall, appear in July and Auguſt, and are ſucceeded by ſmall, angular capſules, containing ripe ſeeds, ſoon after.

and Spaniſh Spurge;

7. Spaniſh Spurge. The ſtalk is herbaceous, taper, and about ſix or ſeven inches high. The leaves are ſpear-ſhaped, ſmooth, retuſe, oblique, have a roughiſh border, and grow alternately on the ſtalk. The flowers terminate the ſtalks in quadrifid, forked umbels; they are of a yellowiſh colour, appear in July and Auguſt, and the ſeeds ripen in September.

Myrtle-leaved

8. Myrtle-leaved *Euphorbia.* The ſtalk of this ſpecies is erect, ſends out branches by pairs, and grows to about a foot high. The leaves are roundiſh, entire, indented, downy underneath, and grow oppoſite by pairs on the branches. The flowers come out ſingly from the wings of the leaves, are ſmall, greeniſh, appear in Auguſt, and the ſeeds ripen in the autumn.

and Polygonum-leaved Euphorbia deſcribed.

9. *Polygonum*-leaved *Euphorbia.* This is a low, procumbent, branching plant. The leaves are ſpear-ſhaped, narrow, obtuſe, entire, and grow oppoſite to each other on the branches. The flowers come out ſingly from the wings of the leaves in Auguſt, and are ſucceeded by ripe ſeeds in the autumn.

Small Purple Sea Spurge deſcribed.

10. Small Purple Sea Spurge. The ſtalks are very ſlender, weak, dichotomous, and lie on the ground. The leaves are nearly heart-ſhaped, roundiſh, obtuſe, entire, and grow oppoſite to each other. The flowers come out ſingly from the wings of the leaves, are ſmall, of a yellowiſh colour, appear in June, July, and Auguſt, and afford plenty of ripe ſeeds for a ſucceſſion.

Chamæſyce deſcribed.

11. *Chamæſyce*, or Thyme Spurge. This is a very ſmall plant, dividing into numerous, ſlender branches, which lie on the ground. The leaves are nearly heart-ſhaped, roundiſh, ſlightly indented, of a light-green colour, and grow oppoſite to each other. The flowers come out ſingly from the wings of the leaves, are ſmall, yellowiſh, appear in July and Auguſt, and are ſucceeded by ripe ſeeds in September.

Hoary Spurge deſcribed.

12. Hoary Spurge. The ſtalks are ſlender, divide into numerous, hairy, white branches, and lie on the ground. The leaves are roundiſh, entire, hairy, and of a hoary whiteneſs on both ſides. The flowers come out ſingly from the

wings of the leaves, are ſmall, yellowiſh, appear in July, and the ſeeds ripen in Auguſt.

Deſcription of Small-flowered

13. Small-flowered Spurge. The ſtalk is nearly erect, and ſends forth branches alternately from the ſides. The leaves are oblong, ſmooth, and ſerrated. The flowers are very few, extremely ſmall, ſhew themſelves, though rarely, ſingly from the wings of the leaves in Auguſt, and are followed by ripe ſeeds in September.

and Heterophyllous Spurge.

14. Heterophyllous Spurge. The ſtalks are ſmooth, reddiſh, and about two feet and a half high. The leaves are of different forms, ſome being fiddle-ſhaped, others oval, and a third ſort ſpear-ſhaped and narrow; ſome are of a purpliſh colour, and others green: Their edges are ſerrated, and they grow on ſhort footſtalks. The flowers come out from the ends of the branches in ſmall umbels, are of a greeniſh-white colour, appear in Auguſt, and are followed by roundiſh capſules, containing the ſeeds.

Campeachy Euphorbia deſcribed.

15. Campeachy *Euphorbia*. The ſtalk is ſmooth, herbaceous, upright, ſends forth ſeveral ſpreading branches, and grows to about a foot high. The leaves are roundiſh, nearly heart-ſhaped, entire, and grow on longiſh footſtalks. The flowers come out ſingly from the diviſions of the ſtalks, are ſmall, of a greeniſh colour, appear in Auguſt, and are followed by ſmall round capſules, containing the ſeeds.

Hypericum-leaved Spurge deſcribed.

16. *Hypericum*-leaved Spurge The ſtalk is upright, divides into ſeveral ſpreading branches, and grows to about two feet high. The leaves are oval, oblong, ſerrated, and for the moſt part grow oppoſite to each other. The flowers are produced from the ends and ſides of the branches in round, cloſe bunches; they are of a white colour, appear in July and Auguſt, and are followed by round capſules containing the ſeeds.

Rough Indian Euphorbia deſcribed.

17. Rough Indian *Euphorbia*. The ſtalks of this ſpecies are tender, forked, weak, very hairy, and about a foot and a half long. The leaves are oval, ſlightly ſerrated, pointed, and grow oppoſite to each other. The flowers are collected in round heads, growing on footſtalks from the ſides of the branches; they are ſmall, of a whitiſh-green colour, appear in July and Auguſt, and are ſucceeded by ripe ſeeds in September.

Deſcription of Thyme-leaved Indian

18. Thyme-leaved Indian Spurge. The ſtalks are very weak, hairy, of a reddiſh colour, divide into numerous branches, and lie on the ground. The leaves are oval, oblong, obtuſely ſerrated, and grow oppoſite to each other. The flowers are collected in roundiſh heads, growing from the wings of the leaves on ſhort footſtalks; they are of a white colour, appear in July and Auguſt, and are followed by ripe ſeeds in September.

and Spotted Spurge.

19. Spotted Spurge. This is a low plant, ſending forth many ſpreading, purpliſh-coloured branches alternately from the ſides. The leaves are oval, oblong, trinervous, ſlightly ſerrated, a little hairy, tender, and are elegantly marked with browniſh, purple-coloured ſpots. The flowers come out ſingly from the wings of the leaves, are ſmall, of a reddiſh-yellow colour, and are ſucceeded by ſmooth capſules containing the ſeeds.

Greater Lathyris deſcribed.

20. Greater *Lathyris*, or *Capatutia*. The ſtalk is upright, ſucculent, forked near the top, and about a yard in height. The leaves are ſpear-ſhaped, ſmooth, entire, ſeſſile, and grow oppoſite to each other. The flowers come out from the diviſions of the ſtalks in quadrifid umbels, are of a greeniſh-yellow colour, appear in June and July, and are ſucceeded by ripe ſeeds in Auguſt and September.

Propagation of it.

This laſt ſpecies is a Biennial, and is raiſed by ſowing the ſeeds in the ſpring. When they come up, they will require no trouble, except thinning them to proper diſtances, and keeping them clean from weeds. The next ſummer they will flower, and ſpontaneouſly ſow their ſeeds, and produce you more plants than you could wiſh for a ſucceſſion.

Culture of the other Species.

The firſt, ſecond, third, fourth, fifth, ſixth, ninth, tenth, eleventh, and twelfth ſpecies are raiſed by ſowing the ſeeds, ſoon after they are ripe, in any common mould made fine. The next ſummer they will flower; and if the ſeeds are permitted to ſcatter, moſt of them will become troubleſome weeds in the garden.

The ſeventh, eighth, thirteenth, fourteenth, fifteenth, ſixteenth, ſeventeenth, eighteenth, and nineteenth ſpecies are natives of the warmer parts of the world. The ſeeds, therefore, ſhould be ſown on a hot-bed in the ſpring; and when they are fit to remove, they ſhould be taken out, in a moiſt day, with a ball of earth to each root. The mould to which they are removed ſhould be rich and fine; and the ſituation ought to be warm and well defended. They ſhould be watered as often as dry weather makes it neceſſary, ſhould be kept clean from weeds, and about July or Auguſt they will flower, and the ſeeds will ripen in the autumn. Even of theſe tender ſpecies, plants from caſually ſcattered ſeeds will often come up, and be larger than thoſe raiſed by art.

Titles.

Segetalis.

1. Corn Spurge is titled, *Euphorbia inermis, foliis alternis linearibus acutis, partialibus umbellæ ovato-rhombeis, petalis bicornibus.* Sauvages calls it, *Euphorbia inermis, foliis linearibus acutis ad umbellam quinis iſoſcelibus, ad umbellulas ter dichotomas ovato-trigonis*; Moriſon, *Tithymalus annuus, lanato flore, linariæ folio longiore*; Caſpar Bauhine, *Tithymalus maritimo affinis, linariæ folio*; and Ray, *Tithymalus ſegetum longifolius.* It grows naturally on corn-land in England and in Mauritania.

Helioscopia.

2. Sun Spurge, or Wart Wort, is, *Euphorbia umbellâ quinquefidâ, trifidâ, dichotomâ, involucellis obovatis, foliis cuneiformibus ſerratis.* In the *Hortus Cliffort.* it is termed, *Euphorbia foliis crenatis, umbellâ univerſali quinquefidâ pentaphyllâ, partialibus trifidis, propriis triphyllis*; in the *Flora Lapp. Euphorbia inermis, foliis ſubrotundis crenatis.* Caſpar Bauhine calls it, *Tithymalus helioſcopius.* It grows as a weed in many gardens in England, and is common in cultivated places in moſt parts of Europe.

Serrata.

3. Serrated Spurge is, *Euphorbia umbellâ quinquefidâ, trifidâ, dichotomâ, involucellis diphyllis reniformibus, foliis amplexicaulibus cordatis ſerratis.* In the *Hortus Cliffort.* it is termed, *Euphorbia inermis, foliis denticulatis caulinis lanceolatis, umbellarum cordatis.* Caſpar Bauhine calls it, *Tithymalus caracias, folio ſerrato*; and Cluſius, *Tithymalus myrtines Valentinus.* It grows naturally in France, Italy, Spain, and in the Eaſt.

Platyphylla.

4. Broad-leaved Spurge is, *Euphorbia umbellâ quinquefidâ, trifidâ, dichotomâ, involucris carinâ piloſis, foliis ſerratis lanceolatis, capſulis verrucoſis.* In the *Amœnitates Academicæ* it is termed, *Euphorbia umbellâ quinquefidâ, ſubquadrifidâ, dichotomâ, involucellis primariis tetraphyllis, foliis ſerratis lanceolatis ſeſſilibus*; in the *Hortus Upſal. Euphorbia inermis, foliis alternis lanceolatis amplexicaulibus ſubſerratis, umbellâ univerſali quinquefidâ, pentaphyllâ, partialibus bifidis.* Van Royen calls it, *Euphorbia inermis, foliis lanceolatis, umbellâ univerſali partialumque primâ quinquefidâ, ſecundâ, trifidâ, reliquis bifidis.* Caſpar Bauhine calls it, *Tithymalus arvenſis latifolius Germanicus*; and Fuchſius, *Tithymalus platyphyllos.* It grows naturally in corn-fields in England, Germany, and France.

Exigua.

5. Dwarf Spurge is, *Euphorbia umbellâ trifidâ,*

fidâ, dichotomâ, involucellis lanceolatis, foliis linearibus. In the *Hortus Cliffort.* it is termed, *Euphorbia inermis, foliis alternis linearibus acutis, umbellâ univerſali trifidâ, partialibus dichotomis diphyllis.* Caſpar Bauhine calls it, *Tithymalus ſ. eſula exigua*; alſo, *Tithymalus ſ. eſula exigua, foliis obtuſis*; alſo, *Tithymalus exiguus ſaxatilis.* Dalechamp calls it, *Eſula minima tragi*; and Gerard, *Eſula exigua tragi.* The common ſpecies grows naturally chiefly in corn-fields in England, France, Spain, Luſatia, and Switzerland; whilſt the varieties inhabit rocky and gravelly ſoils; and ſome are found in meadows and paſtures, in one or other of the above countries.

Peplus. 6. Petty Spurge is, *Euphorbia umbellâ trifidâ, dichotomâ, involucellis ovatis, foliis integerrimis obovatis petiolatis.* In the *Hortus Cliffort.* it is termed, *Euphorbia foliis obverſè ovatis integerrimis, umbellâ univerſali trifidâ, triphyllâ, partialibus dichotomis diphyllis.* Caſpar Bauhine calls it, *Peplus ſ. eſula rotunda*; Fuchſius, *Peplus*; and Ray, *Tithymalus parvus annuus, foliis ſubrotundis non crenatis, peplus dictus.* It is a weed in many gardens in England, and grows naturally in the like kind of rich ſoils in moſt parts of Europe.

Terra-cina. 7. Spaniſh Spurge is, *Euporbia umbellâ quadrifidâ dichotomâ, foliis alternis lanceolatis retuſis mucronatis.* Barrelier calls it, *Tithymalus marinus, folio retuſo, Terracinus.* It grows naturally in Spain.

Myrti-folia. 8. Myrtle-leaved Spurge is, *Euphorbia dichotoma, foliis integerrimis ſubrotundis emarginatis ſubtùs incanis, floribus ſolitariis, caule erecto.* Brown calls it, *Euphorbia erecta, foliolis ovatis oppoſitis, ramulis tenuibus alaribus.* It grows naturally in Jamaica.

Polygo-nifolia 9. *Polygonum*-leaved Spurge is, *Euphorbia foliis oppoſitis integerrimis lanceolatis obtuſis, floribus ſolitariis axillaribus, caulibus procumbentibus.* Gronovius calls it, *Euphorbia procumbens, ramulis alternis, foliis lanceolato-linearibus, floribus ſolitariis*; and Ray, *Euphorbia minima ramoſiſſima anguſtifolia.* It grows naturally in Virginia and Canada.

Peplis. 10. Small Purple Sea Spurge is, *Euphorbia dichotoma, foliis integerrimis ſemicordatis, floribus ſolitariis axillaribus, caulibus procumbentibus.* Guettard calls it, *Euphorbia foliis ſubrotundis obtuſis, floribus ſolitariis in foliorum alis.* Caſpar Bauhine calls it, *Peplis maritima, folio obtuſo*; Cluſius, *Peplis*; Dalechamp, *Peplion*; and Ray, *Tithymalus maritimus ſupinus annuus, peplis dictus.* It grows naturally on the ſea-ſhores of England, France, and Spain.

Chamæ-syce. 11. *Chamæſyce*, or Spurge Thyme, is, *Euphorbia dichotoma, foliis crenulatis ſubrotundis glabris, floribus ſolitariis axillaribus, caulibus procumbentibus.* In the *Hortus Cliffort.* it is termed, *Euphorbia inermis, foliis obliquè cordatis, ſerrulatis uniformibus, ramis alternis, floribus ſolitariis.* Caſpar Bauhine calls it, *Chamæſyce.* It grows naturally on dry ground in many of the ſouthern countries of Europe, Siberia, and Meſopotamia.

Canes-cens. 12. Hoary Spurge is, *Euphorbia dichotoma foliis integris ſubrotundis piloſis, floribus ſolitariis axillaribus, caulibus procumbentibus.* Tournefort calls it, *Tithymalus exiguus villoſus nummulariæ folio.* It grows naturally in Spain.

Parvi-flora. 13. Small-flowered Spurge is, *Euphorbia ſubdichotoma, foliis ſerratis oblongis glabris, floribus ſolitariis, caule erectiuſculo, alternè ramoſo.* Burman calls it, *Tithymalus erectus, floribus rarioribus, foliis oblongis glabris integris.* It grows naturally in India.

Hetero-phylla. 14. Heterophyllous Spurge is, *Euphorbia inermis, foliis ſerratis petiolatis difformibus ovatis lanceolatis panduriformibus.* Plumier calls it, *Tithymalus heterophyllus*; Plukenet, *Tithymalus Curaſſavicus, ſalicis & atriplicis foliis variis, caulibus viridantibus*; and Moriſon, *Tithymalus Curaſſavicus, ſalicis & atriplicis foliis hirſutis, caulibus ſubrubentibus.* It grows naturally in the warmer parts of America.

Ocymo-idea. 15. Campeachy *Euphorbia* is, *Euphorbia inermis herbacea ramoſa, foliis ſubcordatis integerrimis petiolo brevioribus, floribus ſolitariis.* Van Royen calls it, *Euphorbia inermis, foliis ſubcordatis obtuſis integerrimis petiolatis, caule ramoſo erecto.* It grows naturally at Campeachy.

Hyperi-cifolia. 16. *Hypericum*-leaved Spurge is, *Euphorbia dichotoma, foliis ſerratis ovali-oblongis glabris, corymbis terminalibus, ramis divaricatis.* In the *Hortus Cliffort.* it is termed, *Euphorbia inermis, foliis ovalibus oppoſitis hinc ſerratis uniformibus, ramis alternis, caule erectiuſculo.* Brown calls it, *Euphorbia minima reclinata, foliolis ovatis denticulatis, floribus ſubumbellatis terminalibus lateralibuſque*; Commeline, *Tithymalus Americanus, floſculis albis*; and Sloane, *Tithymalus erectus acris parietariæ foliis glabris, floribus ad caulium nodos conglomeratis.* It grows naturally in India.

Hirta. 17. Rough-leaved *Euphorbia* is, *Euphorbia dichotoma, foliis ſerrulatis ovatis acuminatis, pedunculis capitatis axillaribus.* In the *Flora Zeylanica* it is termed, *Euphorbia inermis, foliis oppoſitis ovalibus ſerratis uniformibus, pedunculis capitatis axillaribus.* Brown calls it, *Euphorbia reclinata minor, ſubhirſuta, foliis ſerratis*; Burman, *Tithymalus botryoides Zeylanicus, cauliculis villoſis*; and Rumphius, *Eſula eſculenta.* It grows naturally in India.

Thymifo-lia. 18. Thyme-leaved Indian Spurge is, *Euphorbia dichotoma, foliis ſerratis ovali-oblongis, capitulis axillaribus glomeratis ſubſeſſilibus, caulibus procumbentibus.* In the *Flora Zeyl.* it is termed, *Tithymalus foliis oppoſitis obliquè cordatis obtuſis ſerratis, pedunculis multifloris.* Plukenet calls it, *Tithymalus Indicus annuus dulcis, floribus albis, caulibus viridantibus & rubentibus*; and Burman, *Tithymalus humilis ramoſiſſimus, foliis thymi ſerratis.* It is a native of India.

Macu-lata. 19. Spotted Spurge is, *Euphorbia dichotoma, foliis ſerratis oblongis piloſis, floribus axillaribus ſolitariis, ramis patulis.* Brown calls it, *Euphorbia minima ſupina rubeſcens*; Plukenet, *Tithymalus, ſ. chamæſyce altera Virginiana, foliis crenatis & maculâ fuſcâ eleganter notatis*; and Sloane, *Chamæſyce.* It grows naturally in many parts of the Weſt Indies.

Lathyris. 20. Greater *Lathyris*, or *Capatutia*, is, *Euphorbia umbellâ quadrifidâ, dichotomâ, foliis oppoſitis integerrimis.* In the *Hortus Upſal.* it is termed, *Euphorbia inermis, foliis oppoſitis lanceolatis integerrimis, umbellâ univerſali quadrifidâ tetraphyllâ, ulterioribus dichotomis*; in the *Hortus Cliffort. Euphorbia inermis, foliis oppoſitis lanceolatis, umbellâ univerſali trifidâ polyphyllâ, partialibus triphyllis, reliquis diphyllis.* Caſpar Bauhine calls it, *Lathyris major*; and Cammerarius, *Lathyris.* It grows naturally in France and Spain.

CHAP.

CHAP. CXLIII.

EXACUM.

THIS genus affords an elegant Annual, called Indian *Exacum.*

The plant deſcribed.

The ſtalk is round, ſlightly ſtriated, upright, branching near the top, and eight or ten inches high. The leaves are ſpear-ſhaped, oval, and grow oppoſite by pairs on the ſtalk. The flowers come out from the ends and ſides of the branches on long, ſlender footſtalks; they are ſmall, but very numerous, of a golden-yellow colour, appear in July and Auguſt, and the ſeeds ripen in the autumn.

Culture.

It is raiſed by ſowing the ſeeds, in the ſpring, in pots filled with light, ſandy earth. The pots muſt be then plunged up to the rims in a hot-bed; and when the plants come up, they muſt be thinned, drawing out the weakeſt, and leaving two or three only in each pot. As the days get warmer, they muſt have proportionally more air, and be frequently watered; and when the heat of the bed is abated, they muſt be removed into a ſecond hot-bed, and conſtantly kept under glaſſes, allowing them much air in warm weather, and frequent though but ſlight waterings at a time. About the end of July, or early in Auguſt, they will flower, will continue in beauty a conſiderable time, and in the autumn afford good ſeeds for a ſucceſſion.

Titles.

Pedunculatum.

This ſpecies is titled, *Exacum floribus pedunculatis.* Plukenet calls it, *Centaurium minus hypericoides, flore luteo, lini capitulis.* It grows naturally in India.

Claſs and order in the Linnæan ſyſtem.

Exacum is of the claſs and order *Tetrandria Monogynia*; and the characters are,

The characters.

1. CALYX is a perianthium compoſed of four oval, obtuſe, erect, patulous, permanent leaves.

2. COROLLA is one permanent petal. The tube is nearly globular, and the length of the calyx. The limb is divided into four roundiſh, patent ſegments.

3. STAMINA are four filiforme filaments, ſituated in the tube, having roundiſh antheræ.

4. PISTILLUM conſiſts of a roundiſh germen filling the tube, a filiforme, erect ſtyle the length of the limb, and a capitated ſtigma.

5. PERICARPIUM is a roundiſh, compreſſed capſule, furrowed on each ſide, of the length of the calyx, and containing two cells.

6. SEMINA. The ſeeds are numerous.

CHAP. CXLIV.

FAGONIA.

THERE are only three ſpecies of this genus, viz.

Species.

1. Cretan *Fagonia.*
2. Spaniſh *Fagonia.*
3. Arabian *Fagonia.*

Cretan Fagonia deſcribed.

1. Cretan *Fagonia.* This ſpecies is a low Annual, ſending forth ſeveral ſlender branches, which are about a foot and a half long, and lie on the ground. The leaves are trifoliate, being compoſed of three ſpear-ſhaped, plane, ſmooth folioles; they grow oppoſite at the joints, and immediately under them, on each ſide the ſtalk, is a pair of ſpines. The flowers come out ſingly from the joints on ſhort footſtalks, are of a pale-blue colour, and the general characters indicate their ſtructure; they appear in July and Auguſt, and the ſeeds ripen in the autumn.

Variety.

There is a variety of this ſpecies with narrower leaves and larger flowers of a reddiſh-purple colour.

Deſcription of Spaniſh

2. Spaniſh *Fagonia.* The branches are ſlender, about a foot and a half long, and free from ſpines. The leaves are trifoliate, and grow oppoſite to each other at the joints. The flowers are of a blue or purpliſh colour, appear in July, and the ſeeds ripen in the autumn.

and Arabian Fagonia.

3. Arabian *Fagonia.* The ſtalks are ligneous, and ſend forth ſeveral ſlender branches, which are armed with very long thorns. The folioles are of a thickiſh ſubſtance, but narrow, and convex on one ſide. The flowers come out from the joints on footſtalks, are of a pale-blue colour, appear in July, and the ſeeds ripen in the autumn.

There

Variety.

There is a variety of this ſpecies with purpliſh-coloured flowers.

Culture of the firſt ſpecies.

The firſt ſpecies is an Annual; the ſecond and third are Biennials. The ſeeds of the firſt ſpecies muſt be ſown in a warm border in March, and they will flower in Auguſt, and in favourable ſeaſons will perfect their ſeeds: But as theſe do not always happen, it will be adviſeable to ſow a few ſeeds in the autumn in pots, to be houſed in the winter; and if theſe are turned out, with the mould at the roots, into the full ground in the ſpring, they will flower early in July, and will be pretty ſure of affording you good ſeeds for a ſucceſſion. Some ſeeds, alſo, ſhould be ſown in the autumn in the open ground, in a warm, well-ſheltered place; and if the winter ſhould prove mild, the plants will live through it, flower earlier, and be ſtronger and better plants than thoſe that had been houſed in pots.

Culture of the laſt two ſpecies.

The laſt two ſpecies are Biennials; but as they are generally killed in winter by our froſts, the ſeeds ſhould be ſown in pots or boxes, in order to be houſed at that ſeaſon. As ſoon as they are ſown, which may be in April or May, let the pots be ſet in the ſhade, and, if dry weather happens, frequently watered. The plants will readily come up, and in this ſhady ſituation they ſhould remain all ſummer. In the beginning of October, they ſhould be removed into a warm, well-ſheltered place, that is full upon the ſun; and here they may ſtand until the winter threatens you with bad weather, when they ſhould be removed under a hot-bed frame, or ſome good ſhelter. In the ſpring they ſhould be taken up, with a ball of earth to each root, and ſet in the place where they are deſigned to remain. They will then flower in July, and will for the moſt part be ſucceeded by good ſeeds in September.

Titles.

1. Cretan *Fagonia* is titled, *Fagonia ſpinoſa, foliolis lanceolatis planis lævibus.* In the *Hortus Cliffort.* it is termed, *Fagonia ſpinoſa.* Caſpar Bauhine calls it, *Trifolium ſpinoſum Creticum.* It grows naturally in Crete. Cretica.

2. Spaniſh *Fagonia* is, *Fagonia inermis.* Tournefort calls it, *Fagonia Hiſpanica non ſpinoſa.* It grows naturally in Spain. Hispa-nica.

3. Arabian *Fagonia* is, *Fagonia ſpinoſa, foliolis linearibus convexis.* Shaw calls it, *Fagonia Arabica, longiſſimis aculeis armata.* It grows naturally in Arabia. Arabica.

Claſs and order in the Linnæan Syſtem.

Fagonia is of the claſs and order *Decandria Monogynia*; and the characters are,

The characters.

1. CALYX is a perianthium compoſed of five oval, obtuſe, erect, concave leaves.

2. COROLLA conſiſts of five heart-ſhaped, ſpreading petals, having long, ſlender ungues inſerted in the calyx.

3. STAMINA are ten awl-ſhaped, erect filaments, that are larger than the calyx, and have roundiſh antheræ.

4. PISTILLUM conſiſts of a five-cornered germen, an awl-ſhaped ſtyle, and a ſimple ſtigma.

5. PERICARPIUM is a roundiſh, five-lobed, pointed capſule, containing five cells.

6. SEMINA. The ſeeds are ſingle, and roundiſh.

* * *

CHAP. CXLV.

FESTUCA.

Species.

THE ſhort-lived ſpecies of this genus are,
1. Wall Feſcue-graſs.
2. Sea Feſcue-graſs.
3. Barren Feſcue-graſs.
4. Long-cupped Feſcue-graſs.

Deſcription of Wall,

1. Wall Feſcue-graſs. The leaves are very ſmall, narrow, pointed, uſually of a browniſh colour, and ſeldom more than two or three inches in length. The ſtalks are very ſlender, jointed, five or ſix inches high, and garniſhed with narrow, ſhort, pointed leaves, growing ſingly at the joints, and ſurrounding them with their baſe. The flowers come out in ſpiked panicles from the tops of the ſtalks, are very rough, and the ſpikes bend downward with their own weight; they appear chiefly in June, though they are occaſionally to be met with all ſummer and in the autumn.

Sea,

2. Sea Feſcue-graſs. The leaves are awl-ſhaped, ſtriated, and three or four inches long. The ſtalks are very ſlender, jointed, five or ſix inches high, and garniſhed with ſmall, pointed leaves, growing ſingly at the joints. The flowers come out from the tops of the ſtalk in very narrow, ſtraight ſpikes, each ſpike containing ſix flowers; they are ariſtated, arranged in one direction, and appear in June and July.

Barren,

3. Barren Feſcue-graſs. The leaves are narrow, pointed, and three or four inches long. The ſtalks are ſlender, jointed, ſix or eight inches high, and garniſhed with leaves growing ſingly at the joints, and ſurrounding them with their baſe. The flowers are produced from the tops of the ſtalks in panicles. The ſpikes, of which the panicles are compoſed, are ſmooth, upright, and arranged in one direction. The flowers appear in May and June, though they are to be met with occaſionally at other ſeaſons.

and Long-cupped Feſcue-graſs.

4. Long-cupped Feſcue-graſs. The radical leaves are very ſhort, and form a cluſter at the crown of the root. The ſtalks are very ſlender, narrow, and three or four inches high. The

flowers come out from the tops of the ſtalks in ſtraitened panicles, the ſpikes being very narrow, and the cups longer than the florets; they are deſtitute of ariſtæ, and the ſeaſon of their appearance is June and July.

Culture. The firſt and third ſpecies grow naturally on old walls and ſterile places in England, and the other two in ſandy, barren places in other countries; and all of them are as little regarded as, perhaps, any graſs we have. Their inſpection, therefore, belongs chiefly to the Botaniſt, to whom the ſeemingly meaneſt plants afford ſatisfaction and pleaſure.

Titles. Myuros. 1. The firſt ſpecies is titled, *Feſtuca paniculâ ſpicatâ nutante, calycibus minutiſſimis, floribus ſcabris longius ariſtatis.* Barrelier calls it, *Gramen feſtuceum myurum, minori ſpicâ heteromallâ*; Moriſon, *Gramen murorum, ſpicâ longiſſimâ*; and Parkinſon, *Gramen ſpicâ nutante longiſſimâ.* It grows naturally on old walls, and dry, ſterile places in England, Italy, and Barbary.

2. The ſecond ſpecies is, *Feſtuca ſpicâ lineari rectâ, floribus adpreſſis ſubariſtatis.* Scheuchzer calls it, *Gramen exile duriuſculum maritimum.* It grows naturally in Spain. Mari=tima.

3. The third ſpecies is, *Feſtuca paniculâ ſecundâ, ſpiculis erectis lævibus, calycis alterâ valvulâ integrâ, alterâ ariſtatâ.* Van Royen calls it, *Feſtuca ſpicis erectis ad unum latus, paleâ alterâ calycinâ minimâ, alterâ acuminatâ*; and Ray, *Gramen paniculatum bromoides minus, paniculis ariſtatis unam partem ſpectantibus.* It grows naturally in barren, ſandy places in England and Gaul. Bromoi=des.

4. The fourth ſpecies is, *Feſtuca paniculâ coarctatâ, ſpiculis linearibus, calyce floſculis longiore, foliis baſi barbatis.* Lœfling calls it, *Feſtuca paniculâ contractâ, ſpiculis linearibus muticis, longitudine calycis.* It grows naturally in Spain. Calycina.

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CHAP. CXLVI.

FILAGO, COTTON-WEED.

Species. OF this genus are,

1. Dwarf Cotton-weed, or Cud-weed.
2. German Cotton-weed, or Cud-weed.
3. Spaniſh Cotton-weed.
4. Mountain Cotton-weed.
5. French Cotton-weed.
6. Corn Cotton-weed.
7. *Leontopodium*, or Small Lion's Cud-weed.

Deſcription of Dwarf, 1. Dwarf Cotton-weed, or Cud-weed. The ſtalk is undivided, and two or three inches high. The leaves are oval, oblong, and hoary. The flowers ſit cloſe on the tops of the ſtalk, having no footſtalks; they appear in June and July, and the ſeeds ripen in September.

German, 2 German Cotton-weed, or Cud-weed. This ſpecies is often called the Impious Herb, or Wicked Cud-weed. The ſtalks are upright, woolly, branching, and about a foot high. The leaves are long, narrow, of a whitiſh colour, and adorn the ſtalks from the bottom to the top. The flowers come out from the tops of the branches; and (which is remarkable) thoſe branches that bear the laſt-blown flowers riſe above the others which ſupported the earlieſt flowers of the ſeaſon: They appear in June and July, and the ſeeds ripen in Auguſt and September.

Spaniſh, 3. Spaniſh Cotton-weed. The ſtalk is dichotomous, downy, erect, and five or ſix inches high. The leaves are ſpear-ſhaped, obtuſe, white, and ſoft to the touch. The flowers are produced in cluſters at the diviſions of the ſtalks and ends of the branches; they appear in July and Auguſt, and the ſeeds ripen in September.

Mountain 4. Mountain Cotton-weed. The ſtalks are erect, branching, five or ſix inches high, and covered with a hoary, cottony matter. The leaves are ſmall, narrow, ſoft, and hoary. The flowers are produced in ſmall heads at the wings of the branches; they are of a pale-yellow colour, appear in June and July, and the ſeeds ripen ſoon after.

French, 5. French Cotton-weed. The ſtalk is ſlender, erect, very branching, and five or ſix inches high. The leaves are narrow, ſoft, and hoary. The flowers are produced in ſmall heads at the ends of the branches, appear about the ſame time with the former ſpecies, and the ſeeds ripen accordingly.

and Corn Cotton-weed. 6. Corn Cotton-weed. The ſtalk of this ſpecies is erect, branching, hoary, and ten or twelve inches high. The leaves are oblong, narrow, ſoft, and hoary. The flowers grow in panicles at the tops of the ſtalks, appear in June, July, and Auguſt, and the ſeeds ripen ſoon after in ſucceſſion.

Leontopodium deſcribed. 7. *Leontopodium*, or Small Lion's Cud-weed. The ſtalk is upright, undivided, hoary, and eight or nine inches high. The leaves are oblong, white and cottony, and grow alternately. The flowers terminate the ſtalks in ſmall heads, are of a pale-yellow colour, appear in June and July, and the ſeeds ripen ſoon after the flowers are fallen.

Method of propagation. All theſe ſpecies are eaſily raiſed by ſowing the ſeeds, ſoon after they are ripe, in almoſt any ſoil or ſituation. They will readily come up; and after they have once flowered and ſcattered the ſeed, the ſucceſſion will be maintained without further trouble.

Titles. Pygmaea 1. The firſt ſpecies is titled, *Filago floribus ſeſſilibus terminalibus, foliis floralibus majoribus.* Van Royen calls it, *Santolina caule ſimpliciſſimo, foliis ſuperioribus majoribus*; Vaillant, *Gnaphalium (ſpecies omnes)*; and Caſpar Bauhine, *Gnaphalium roſeum hortenſe.* It grows naturally in moſt of the ſouthern countries of Europe, and in the Eaſt.

2. The

Germanica.

2. The ſecond ſpecies is, *Filago paniculâ dichotomâ, floribus rotundatis axillaribus hirſutis, foliis acutis.* In the *Flora Lapponica* it is termed, *Gnaphalium caule erecto dichotomo, floribus in alis ſeſſilibus.* Caſpar Bauhine calls it, *Gnaphalium vulgare majus*; John Bauhine, *Gnaphalium Germanicum*; and Fuchſius, *Gnaphalium.* It grows naturally by way-ſides, ſterile paſtures, &c. in England, and moſt countries of Europe.

Pyramidata.

3. The third ſpecies is, *Filago caule dichotomo, floribus pyramidatis pentagonis axillaribus, floſculis femineis ſerratis.* Caſpar Bauhine calls it, *Gnaphalium medium.* It grows naturally in Spain.

Montana.

4. The fourth ſpecies is, *Filago caule erecto diviſo, floribus conicis lateralibus axillaribus.* In the *Flora Suecia* it is termed, *Gnaphalium caule erecto diviſo, floribus pyramidatis axillaribuſque.* Haller calls it, *Gnaphalium caule erecto ramoſo, foliis breviſſimis, glomeratis ſeſſilibus diſſitis prope ſummitates*; Caſpar Bauhine, *Gnaphalium minus repens*; and John Bauhine, *Gnaphalium minimum.* It grows naturally in mountainous, barren, gravelly places in England, and moſt countries of Europe.

Gallica.

5. The fifth ſpecies is, *Filago caule erecto dichotomo, floribus ſubulatis axillaribus, foliis filiformibus.* Moriſon calls it, *Gnaphalium vulgare medium*; and Plukenet, *Gnaphalium minimum alterum noſtras, ſtœchadis citrinæ foliis tenuiſſimis.* It grows naturally in England and Gaul.

Arvensis.

6. The ſixth ſpecies is, *Filago floribus conicis lateralibus, caule paniculato.* In the *Flora Suecia* it is termed, *Gnaphalium paniculatum hirſutum.* Caſpar Bauhine calls it, *Gnaphalium majus, anguſto oblongo folio*; Haller, *Gnaphalium caule erecto ramoſiſſimo, glomerulis florum ad alas longè ſeſſilibus*; and Vaillant, *Filago incana tomentoſa erecta.* It grows naturally among corn, and on ſterile plains, in moſt countries of Europe.

Leontopodium.

7. The ſeventh ſpecies is, *Filago caule ſimpliciſſimo, capitulo terminali bracteis hirſutiſſimis radiato.* Caſpar Bauhine calls it, *Gnaphalium Alpinum, magno flore, folio oblongo*; alſo, *Gnaphalium magno flore, brevi folio.* John Bauhine names it, *Gnaphalium Alpinum pulchrum*; and Cluſius, *Leontopodium.* It grows naturally on the Alps of Helvetia, Valleſia, Auſtria, and Siberia.

Claſs and order in the Linnæan ſyſtem.

Filago is of the claſs and order *Syngeneſia Polygamia Neceſſaria*; and the characters are,

The characters.

1. Calyx. The general calyx is imbricated, and contains ſeveral hermaphrodite flowers in the diſk, and the females in the circumference ſingly within the calycinal ſcales.

2. Corolla of the hermaphrodites is funnel-ſhaped, and cut at the brim into four erect parts. The females are extremely ſmall, filiforme, narrow, and bifid at the top.

3. Stamina of the hermaphrodites are four ſmall, capillary filaments, having a cylindrical anthera indented in four parts at the top.

4. Pistillum of the hermaphrodites conſiſts of ſcarce any germen, a ſimple ſtyle, and an acute, bifid ſtigma. In the females, it conſiſts of an oboval, large, depreſſed germen, a filiforme ſtyle, and a bifid, acute ſtigma.

5. Pericarpium. There is none.

6. Semina of the hermaphrodites, none: Of the females, ſmall, oboval, ſmooth, compreſſed, and have no down.

CHAP. CXLVII.

FRANKENIA.

The plant deſcribed.

OF this genus there is one ſhort-lived ſpecies, called Broad-leaved Sea-heath.

The ſtalks are ſlender, ſix or eight inches long, and lie on the ground. The leaves are oval, broad, retuſed, and finely duſted on their under-ſide. The flowers come out from the wings of the leaves at the tops of the ſtalks; they are ſmall and whitiſh, appear in July, and the ſeeds ripen in September.

Culture.

This ſpecies may be raiſed by ſowing the ſeeds in the autumn ſoon after they are ripe, or the ſpring following. The ſoil ſhould be light and ſandy; and after the plants come up, all the trouble they will require will be to thin them where they are too cloſe, and keep them clean from weeds; and if the ſeeds are permitted to ſcatter, freſh plants will ariſe for a ſucceſſion without further care.

Titles.

Pulverulenta.

This ſpecies is titled, *Frankenia foliis obovatis retuſis ſubtùs pulveratis.* Sauvages calls it, *Frankenia foliis ovalibus*; Micheli, *Franca maritima quadrifolia ſupina, chamæſyces folio & facie*; Cluſius, *Anthyllis Valentina*; Caſpar Bauhine, *Anthyllis maritima, chamæſyce ſimilis*; and Tournefort, *Alſine maritima ſupina foliis chamæſyces.* It grows naturally on the coaſts of Suſſex, Narbonne, Italy, and Apulia.

CHAP. CXLVIII.

FUMARIA, FUMATORY.

Species.

THE Annuals of this genus are,
1. Common Fumatory.
2. Ramping Fumatory.
3. Climbing Fumatory.
4. Spiked Fumatory.
5. Evergreen Podded Fumatory.
6. Æthiopian Fumatory, Bladder Fumatory, or Climbing African *Cyſticapnos*.

Deſcription of Common Fumatory

1. Common Fumatory. The ſtalks are ſlender, weak, branching, diffuſe, and hardly a foot high. The leaves branch out into many diviſions, and the folioles are ſmall, jagged, and of a light-green colour. The flowers come out in looſe ſpikes from the ends of the branches; they are of a reddiſh-purple colour, appear in April, May, and June, and often continue in ſucceſſion from different plants until the end of ſummer.

Varieties.

There is a variety of this ſpecies with deep-purple, and another with white flowers.

Medicinal properties of it.

This herb ſhould be gathered for medicinal uſes, when it is in flower. The juice is good for bilious colics, is a great bracer of the ſtomach, proves an admirable diuretic, and is ſaid to be of great efficacy in removing a quartan ague.

Ramping,

2. Ramping Fumatory. The ſtalks are weak, ſlender, branching, and lay hold on buſhes, or whatever is near them. The leaves are compoſed of ſeveral parts, and have ſhort claſpers aſſiſting the plant to climb. The flowers grow in looſe bunches from the ſides of the branches; they are of a pale-red or whitiſh colour; they appear in May and June, and frequently on different plants ſhew themſelves till the end of ſummer, and the autumn.

Climbing,

3. Climbing Fumatory. The ſtalks are weak, ſlender, poſſeſſed of tendrils, and grow, if ſupported, to about a yard high. The leaves are ſmall, and uſually grow three or five together on a footſtalk. The flowers come out in ſmall bunches from the ſides of the branches; they are of a greeniſh-white colour, appear in May and July, and frequently ſhew themſelves on different plants in the end of ſummer and the autumn.

Spiked,

4. Spiked Fumatory. The ſtalks are erect, branching, and about a foot high. The leaves are beautifully divided into a multitude of ſlender folioles of a pale-green colour. The flowers are produced in cloſe ſpikes from the ends of the branches; they are of a deep-red colour, and continue to ſhew themſelves the greateſt part of the ſummer.

Evergreen Podded,

5. Evergreen Podded Fumatory. The ſtalk is upright, round, ſmooth, ſends forth ſeveral erect branches, and grows to about a foot and a half high. The leaves branch into many diviſions, like the Common Fumatory; they are ſmooth, and of a pale-green colour. The flowers come out in looſe panicles from the ends and ſides of the ſtalks and branches; they are of a pale-purple colour, having yellow lips; they appear in May and June, and often continue in ſucceſſion all the ſummer.

and Ægyptian Fumatory deſcribed.

6. Æthiopian Fumatory, Bladder Fumatory, or Climbing African *Cyſticapnos*. The ſtalks are weak, tender, trailing, branch into a few diviſions, and grow about a yard long. The leaves are compoſed of many parts, like the Common Fumatory; but they end in claſpers, by which they lay hold on any thing that is near them for the ſupport of the ſtalks. The flowers are produced in looſe panicles from the ſides of the ſtalks; they are of a whitiſh-yellow colour, appear in July, Auguſt, September, and October, and are ſucceeded by inflated, oval, pendulous pods, containing the ſeeds.

Culture.

The firſt three ſorts grow wild in moſt parts of England, and are never cultivated in gardens. The firſt ſort grows naturally among corn, cultivated lands, and in gardens; and whenever it is found in the latter, it is generally extirpated as a weed. The ſecond and third ſorts grow naturally among buſhes, hedges, &c. Whoever is deſirous of having a few plants of each, to be ready for obſervation, may ſow the ſeeds in a place, ſoon after they are ripe, and they will grow; and if the ſeeds are permitted to ſcatter, they will in a little time over-ſtock the garden with plants, which will come up as weeds in different parts, and at different times and degrees of ſucceſſion; and will afford you, if they are not extirpated, flowers from one or other of the plants all ſummer and the autumn.

The culture of the fourth and fifth ſorts are effected with equal facility; for the plants having once flowered and perfected their ſeeds, they will come up every-where. The firſt of theſe is a very beautiful plant, appears green all winter, flowers early in the ſpring, and, like the former, continues in different plants to ſhew the bloom all ſummer. It will grow in any ſoil or ſituation, thrives well on old walls and buildings, and is admirable for the ornamenting of ruins, grottos, &c. in the garden.

The ſixth ſort is raiſed by ſowing the ſeeds on a hotbed in the ſpring. When the plants are about four inches high, they ſhould be taken up with a ball of earth to each root, and planted in ſmall pots filled with light rich earth; the pots muſt be then plunged up to the rims in a hotbed; the plants muſt be watered and ſhaded until they have taken root; after which they muſt be hardened to the open air by degrees, and in June ſhould be ſet abroad in the places where they are deſigned to remain. In planting them out, ſhake the mould out of the pots without diſturbing the roots, and let them be gently preſſed down with the contiguous mould in proper holes provided for the purpoſe. Let them be then watered, and ſome ſticks thruſt by their ſides for their ſupport; they will then flower in July, and continue the ſucceſſion until the froſt ſtops them;

before which time, if the ſituation is warm, and well-defended, ripe ſeeds from the firſt-blown flowers may be gathered.

Titles. Officinalis. 1. Common Fumatory is titled, *Fumaria pericarpiis monoſpermis racemoſis, caule diffuſo.* In the *Hortus Cliffort.* it is termed, *Fumaria pericarpiis monoſpermis.* Caſpar Bauhine calls it, *Fumaria officinarum & Dioſcoridis*; John Bauhine, *Fumaria vulgaris*; Gerard, *Fumaria purpurea*; and Fuchſius, *Fumaria.* It grows naturally in cultivated places in England, and moſt parts of Europe.

Capreolata. 2. Ramping Fumatory is, *Fumaria pericarpiis monoſpermis racemoſis, foliis ſcandentibus ſubcirrhoſis.* Caſpar Bauhine calls it, *Fumaria viticulis & capreolis plantis vicinis adhærens*; and Ray, *Fumaria major ſcandens, flore pallidiore.* It grows naturally in hedges and woods in England and France.

Claviculata. 3. Climbing Fumatory is, *Fumaria ſiliquis linearibus, foliis cirrhiferis.* In the *Hortus Cliffort.* it is termed, *Fumaria foliis cirrhiferis, floribus ſpicatis.* Caſpar Bauhine calls it, *Fumaria claviculis donata*; and Ray, *Fumaria alba latifolia.* It grows naturally in moſt gravelly woods and hedges in ſome parts of England.

4. Spiked Fumatory is, *Fumaria pericarpiis monoſpermis ſpicatis, caule erecto, foliolis filiformibus.* Spicata. Caſpar Bauhine calls it, *Fumaria minor tenuifolia*; Barrelier, *Fumaria tenuifolia erecta Hiſpanica purpurea*; Moriſon, *Fumaria minor tenuifolia præcox, ſemine lini*; and Cluſius, *Capnos tenuifolia.* It grows in Italy, France, and Spain.

5. Evergreen Fumatory is, *Fumaria ſiliquis linearibus paniculatis, caule erecto.* Sempervirens. In the *Hortus Cliffort.* it is termed, *Fumaria caule erecto ramoſo, ſiliquis filiformibus corymboſis.* Cornutus calls it, *Fumaria ſiliquoſa ſempervirens*; and Tournefort, *Capnoides.* It grows naturally in Canada and Virginia.

6. Æthiopian Fumatory, Bladder Fumatory, Vesicaria. or Climbing African *Cyſticapnos*, is, *Fumaria ſiliquis globoſis acutis inflatis, foliis cirrhiferis.* In the *Hortus Cliffort.* it is termed, *Fumaria foliis cirrhiferis, ſiliquis ovatis inflatis pendulis.* Plukenet calls it, *Fumaria alba veſicaria, capreolis donata, ſub exitum autumni florens, Æthiopica*; and Boerhaave, *Cyſticapnos Africana ſcandens.* It grows naturally in Æthiopia.

CHAP. CXLIX.

GALEOPSIS, HEDGE NETTLE.

HAVING mentioned the Perennial ſpecies of this genus, and given their characters, the Botaniſt perhaps may be offended if we wholly paſs by the Annuals, which, though of little beauty as flowers, may afford him ſome pleaſure in his philoſophical obſervations. The diſtinct ſpecies then are only two, and theſe are uſually called,

Species.
1. Narrow-leaved All-heal.
2. Hemp-leaved Dead Nettle.

Deſcription of Narrow-leaved All-heal, 1. Narrow-leaved All-heal is found growing in corn-fields in many parts of England, and often intrudes itſelf as a weed into our gardens. It hath an upright, jointed, ſquare ſtalk, that will grow to a foot or more in height. The leaves are long, narrow, hairy, veined, and grow without order on the branches. The flowers are produced in whorls, which are placed at a conſiderable diſtance from each other; their colour is red, and they are often ſpotted with yellow on the inſide; they will be in blow in June and July, and ripen their ſeeds in Auguſt.

and Hemp-leaved Dead Nettle. 2. Hemp-leaved Dead Nettle. This hath a ſquare, hollow, jointed, branching ſtalk, that will grow to more than two feet long. The leaves are narrow, hairy, and ſerrated. The flowers grow in whorls, and towards the top of the plant they are almoſt contiguous to each other. Their colour is a pale-red; they will be in blow in June and July, and ripen their ſeeds in Auguſt.

Varieties. There are two or three varieties of this plant of great beauty; one has a deep-purple flower, another a fine yellow flower with purple lips, and a third has a whitiſh flower ſtained with red.

Culture. All theſe ſorts are propagated by ſowing the ſeeds, ſoon after they are ripe, in any part of the garden; and afterwards they will come up like weeds, and ſhould be hoed down like them, leaving only a plant or two of each ſort for variety and obſervation.

Titles. Ladanum. 1. Narrow-leaved All-heal is titled, *Galeopſis internodiis caulinis æqualibus: verticillis omnibus remotis.* In the *Hortus Cliffort.* it is termed, *Galeopſis ramis ſummis pubeſcentibus.* Caſpar Bauhine calls it, *Sideritis arvenſis anguſtifolia rubra*; Rivinus, *Ladanum ſegetum folio latiore.* It grows naturally in ploughed fields in England and moſt parts of Europe.

Tetrahit. 2. Hemp-leaved Dead Nettle is, *Galeopſis internodiis caulinis ſupernè incraſſatis, verticillis ſummis ſubcontiguis.* In the *Hortus Cliffort.* it is termed, *Galeopſis ramis ſummis ſtrigoſis*; in the *Flora Lapp.* *Galeopſis corollâ rubrâ & albâ.* Caſpar Bauhine calls it, *Urtica aculeata, foliis ſerratis*; and Rivinus, *Cannabis ſpuria.* In the *Flora Lapp.* one of the varieties is called, *Galeopſis corollâ flavâ; labio inferiore maculato.* Plukenet terms another, *Lamium cannabinum aculeatum, flore ſpecioſo luteo: labiis purpureis*; and Rivinus another, *Cannabis ſpuria, flore majore.* They grow naturally among the corn in England, and moſt other parts of Europe.

CHAP. CL.

GALIUM, LADIES BED-STRAW, or CHEESE-RENNET.

Species. THE Annuals of this genus are,
1. Cleavers, or Gooſe-graſs.
2. Smooth-ſeeded Gooſe-graſs.

Cleavers, 1. Cleavers, or Gooſe-graſs. The ſtalks are weak, jointed, ſquare, rough, and ſend out branches by pairs. The leaves are ſpear-ſhaped, rough, prickly, and eight of them ſurround the ſtalk at the joints. The flowers are produced from the ſides of the plants; they are very ſmall, of a whitiſh colour, and the general characters indicate their ſtructure; they appear all ſummer, and are ſucceeded by rough, roundiſh, and for the moſt part double fruit, containing the ſeeds.

and Smooth-ſeeded Gooſe-graſs deſcribed. 2. Smooth-ſeeded Gooſe-graſs. The ſtalks are weak, ſquare, jointed, and ſend out branches by pairs. The leaves are ſpear-ſhaped, carinated, very rough, and ſix of them ſurround the ſtalk in a whorl-like manner at the joints. The flowers are extremely ſmall; they ſhew themſelves all ſummer, and the ſeeds that ſucceed them are much ſmoother than thoſe of the former ſpecies.

Both theſe ſorts grow wild in hedges, by path-ſides, cultivated fields, &c. choaking every thing that grows near them, and laying hold on the cloaths of all who approach too near them; and are ſo far from being cultivated, that they are deemed troubleſome weeds in all gardens, and extirpated accordingly Neither ſhould they have had a place here, but that the Gardener may know what it is he is about to extirpate, and by the repetition of ſuch exerciſe, be induced to join the ſtudy of Botany to his uſeful buſineſs of Gardening.

Titles. 1. Cleavers, or Gooſe-graſs, is titled, *Galium foliis octonis lanceolatis carinatis ſcabris retrorſum aculeatis, geniculis villoſis, fructu hiſpido.* Van Royen calls it, *Aparine foliis lanceolatis acuminatis ſcaberrimis, corollis fructu minoribus*; and Caſpar Bauhine, *Aparine vulgaris.* It grows naturally in England, and moſt parts of Europe. Aparine.

2. Smooth-ſeeded Gooſe-graſs is, *Galium foliis ſenis lanceolatis carinatis ſcabris retrorſum aculeatis, geniculis ſimplicibus, fructibus glabris.* Ray calls it, *Aparine ſemine læviore*; and Moriſon, *Aparine foliis crebrioribus & ſemine læviore.* It grows in England, and moſt parts of Europe. Spurium.

CHAP. CLI.

GARIDELLA, FENNEL-FLOWER of CRETE.

THERE is only one ſpecies of this genus yet known, called, the Fennel-flower of Crete.

The plant deſcribed. The ſtalks are upright, ſlender, and branching. The leaves are large, compoſed of a multitude of fine ſlender ſegments like thoſe of Fennel, and are placed alternately at the joints. The flowers grow ſingly on the tops of the ſtalks; they are of a whitiſh colour, and the general characters ſhew their compoſition; they appear in June, July, and Auguſt, and the ſeeds ripen in September.

Culture. The root of this ſpecies is very thick, tough, and ſtrikes deep into the ground, on which account the ſeeds ſhould be ſown in the places where they are deſigned to remain; for ſuch plants in general bear removing very ill. The beſt time for ſowing the ſeeds is the autumn, ſoon after they are ripe, though it may be done ſucceſsfully in the winter or ſpring. They will grow in almoſt any ſoil or ſituation, and after they come up will require no trouble, except thinning them to proper diſtances, and keeping them clean from weeds. After they have once flowered, and perfected their ſeeds, they will come up ſpontaneouſly all over the garden, like our Common Fennel, and cauſe great trouble in reducing them to a proper number.

There

Titles. Nigel-laſtrum.

There being no other ſpecies of this genus, the plant ſtands with the name ſingly, *Garidella*. Caſpar Bauhine calls it, *Nigella Cretica, folio fœniculi*; and Magnol, *Nigellaſtrum raris & fœniculaceis foliis*. It grows naturally in France.

Claſs and order in the Linnæan ſyſtem. The characters.

Garidella is of the claſs and order *Decandria Trigynia*; and the characters are,

1. Calyx is a ſmall deciduous perianthium, compoſed of five oval acute leaves.

2. Corolla. There are no petals, but five long, equal, bilabiated nectariums. The exterior lip of each is plane, and cut into two long, narrow, obtuſe ſegments. The interior lip is ſhort, and undivided.

3. Stamina are uſually ten awl-ſhaped filaments, ſhorter than the corolla, having erect, obtuſe antheræ.

4. Pistillum conſiſts of three oval, erect, acuminated germens, having hardly any ſtyles, but the like number of ſimple ſtigmas.

5. Pericarpium conſiſts of three oblong, acuminated, compreſſed, bivalvate capſules, having the interior ſuture convex.

6. Semina. The ſeeds are many, and ſmall.

CHAP. CLII.

GENTIANA, GENTIAN, or FELL-WORT.

Species.

THE Annuals of this genus are uſually called,

1. Vernal Dwarf Gentian.
2. Autumnal Gentian, or Fell-wort.
3. Marſh Centaury.
4. Perfoliate Centaury.
5. Lapland Gentian.
6. Golden Gentian.
7. Dwarf Siberian Gentian.
8. Bladder Gentian.
9. Leſſer Centaury.
10. Spiked Centaury.
11. American Large-flowered Centaury.
12. Cape Centaury.

Deſcription of Vernal Dwarf,

1. Vernal Dwarf Gentian. This is a low plant, ſeldom riſing to more than about three inches high. The leaves are oblong, pointed, of a dark-green colour, and grow oppoſite to each other on the ſtalks. The flowers come out from the ends of the ſtalks; each is divided into four principal parts, which are hairy on the inſide; their colour is purple; they appear early in the ſpring, or later, or even in the autumn, according as the ſeeds have been ſown; and if the ſeeds are permitted to ſcatter, they will afford you plants, from one or other of which flowers will be produced at almoſt all times of the year.

and Autumnal Gentian.

2. Autumnal Gentian, or Fell-wort. The ſtalk of this plant divides into a few branches near the ground, and grows to about three or four inches high. The leaves are oblong, pointed, ſeſſile, and grow oppoſite by pairs at the joints. The flowers come out from the tops of the ſtalks; their tubes are pretty long, and their tops are divided into five parts, which are hairy on the inſide; their colour is a dark-purple; they appear at any time of the ſummer or autumn, according as the ſeeds have been ſown, and the plants will ſpontaneouſly afford you a ſucceſſion, if the ſeeds are permitted to ſcatter.

Marſh Centaury deſcribed.

3. Marſh Centaury. The ſtalks are very ſlender, divide by pairs, and grow to about four or five inches high. The leaves are narrow, ſpear-ſhaped, and grow oppoſite at the joints. The flowers are funnel-ſhaped, and their tops are divided into four parts, which are not hairy; they are of a yellow colour, and appear at different times of the ſummer.

Proper ſoil.

The ſeeds of this ſpecies muſt be ſown on a boggy, rotten, or marſhy ground, having the top firſt made fine.

Perfoliate Centaury,

4. Perfoliate Centaury. The ſtalk is upright, and grows to about a foot high. The leaves are oval, pointed, ſmooth, of a whitiſh colour, grow oppoſite by pairs, and ſurround the ſtalk with their baſe. The flowers come out in umbels from the tops of the ſtalks; they are tubular, and cut into eight parts at the top; they are of a bright-yellow colour, uſually appear in July, and the ſeeds ripen in September.

Lapland

5. Lapland Gentian. The ſtalk is divided into ſeveral branches near the root, and grows to about two or three inches high. The leaves are ſmall, ſhaped like thoſe of the Leſſer Centaury, and grow oppoſite to each other by pairs. The flowers come out ſingly from the ends of the branches; they are funnel-ſhaped, grow erect, and are cut at the top into five ſegments; their colour is blue, they appear in the ſummer, and often continue in ſucceſſion until the autumn.

and Golden Gentian deſcribed.

6. Golden Gentian. The ſtalk divides into many ſlender branches near the ground, which are erect, ſend out others oppoſite from the ſides, and grow to about eight or nine inches high. The leaves are oval, obtuſe, ſmooth, and ſit cloſe, without any footſtalks. The flowers are funnel-ſhaped; their tube is about as long as the calyx,

and they are cut at the brim into five very ſharp-pointed ſegments; they are of a golden-yellow colour, appear in July and Auguſt, and the ſeeds ripen in the autumn.

Deſcription of the Dwarf Siberian Gentian.

7. Dwarf Siberian Gentian. The ſtalks are ſlender, and about four or five inches high. The leaves are oblong, pointed, grow oppoſite, and have membranaceous borders. The flowers are funnel-ſhaped, cut into five parts at the brim, and come out from the tops of the ſtalks, ſitting cloſe, without any footſtalks. They appear in the ſpring from different plants, may be made to ſhew themſelves all ſummer, and afford plenty of ſeeds for a ſucceſſion.

Proper ſoil and ſituation.

This plant muſt have a moiſt ſoil, and a ſhady ſituation, for want of which it ſhould be watered every evening.

Deſcription of Bladder Gentian,

8. Bladder Gentian. The ſtalk is upright, undivided, of a purple colour, and grows to about four inches high. The lower leaves are oval, but get narrower as they approach the top of the ſtalk; and they grow oppoſite to each other. The firſt flowers come out ſingly from the tops of the ſtalks; they are of a blue colour, cut into five parts, and have very large, ſwelling, plaited calyces. After the firſt flowers are fallen, others frequently ſucceed them from the upper-parts of the ſtalks; they uſually appear in July and Auguſt, and the ſeeds ripen in the autumn.

and Leſſer Centaury.

9. Leſſer Centaury. There are ſeveral varieties which go under this denomination. The ſtalks are in general upright, ſend forth ſeveral branches by pairs, and grow from three or four to eight or ten inches high. The leaves are narrow, ſpear-ſhaped, ſmall, and grow oppoſite by pairs. The flowers come out in ſmall umbels from the top of the plant; they are of a bright-purple colour, funnel-ſhaped, and cut at the brim into five parts; they uſually appear in July and Auguſt, and the ſeeds ripen in the autumn.

The principal varieties of this ſpecies are,

Varieties.

The Reddiſh Purple-flowered,
The Pale-red,
The Yellow,
The White,
The Purple and White.

Uſes of it.

All of them are bitter to the taſte; in infuſions are ſtomachic; are good for the jaundice and ague; kill worms in children; and are a common ingredient in bitters.

Spiked Centaury deſcribed.

10. Spiked Centaury. The ſtalks are upright, branching near the top, and grow to about a foot high. The leaves are ſmall, ſpear-ſhaped, and grow oppoſite to each other. The flowers grow alternately, and form looſe ſpikes on the tops of the ſtalks; they are funnel-ſhaped, quinquifid at the brim, of a white colour, appear in July and Auguſt, and the ſeeds ripen in the autumn.

Variety.

There is a variety of this ſpecies with red flowers.

Deſcription of American Large-flowered,

11. American Large-flowered Centaury. The ſtalks are upright, eight or ten inches high, and ſend forth a few branches by pairs from the ſides. The leaves are oblong, ſpear-ſhaped, and grow oppoſite to each other. The flowers are very large for ſo ſmall a plant, cut into five parts, and indented at the top; they are of a fine blue colour, and grow on long forked footſtalks from the top of the plant; they appear in July and Auguſt, and the ſeeds ripen in the autumn.

and Cape Centaury.

12. Cape Centaury. The ſtalk divides by pairs, and grows to about a foot high. The leaves are heart-ſhaped, grow by pairs at the joints, and ſurround the ſtalk with their baſe. The flowers are large, of a bright-yellow colour, and are ſituated in hollow, inflated, membranaceous cups; they appear in July and Auguſt, and are ſucceeded by four winged membranaceous capſules, containing the ſeeds.

Method of propagating them.

The laſt two ſorts are propagated by ſowing the ſeeds on a hotbed in the ſpring. When the plants come up, they muſt have air ſufficient to prevent their turning yellow, and drawing weak; muſt be frequently watered, and afterwards hardened by degrees to the open air. About the middle or latter end of May, according to the ſtrength of the plants, if a moiſt day ſhould happen, let them be taken up with a ball of earth to the roots, and ſet in a warm border; they will then immediately ſtrike root, flower in July and Auguſt, and the ſeeds ripen in the autumn. For want of a moiſt day, an evening muſt be pitched upon for the removal of the plants; they muſt be ſhaded and watered until they have taken root, and afterwards they will require no further trouble.

The firſt ten ſorts are propagated by ſowing the ſeeds in beds of common mould made fine, ſoon after they are ripe, or in the ſpring. If they are ſown as ſoon as they are ripe, they will flower early the ſummer following; but if the buſineſs is deferred until the ſpring, few of the ſorts will ſhew their bloom until the end of ſummer or autumn. A ſowing, however, ſhould be made at both theſe ſeaſons, in order to continue the ſucceſſion; and after the plants have once flowered and perfected their ſeeds, they will for the moſt part afford you plants enough ſpontaneouſly without further trouble. Moſt of them are poſſeſſed of a bitter juice, and I believe all of them are more or leſs ſtomachic in infuſions.

Titles.

Campestris.

1. Vernal Dwarf Gentian is titled, *Gentiana corollis quadrifidis fauce barbatis.* In the *Flora Lapp.* it is termed, *Gentiana corollâ hypocrateriformi tubo villis clauſo; calycis foliis alternis majoribus.* Columna calls it, *Gentiana purpurea minima*; Caſpar Bauhine, *Gentianella Alpina verna minor*; and Ray, *Gentianella fugax verna, ſeu præcox.* It grows naturally in ſtony places in England; alſo on the Pannonian, Appennine, and Helvetian mountains.

Amarella.

2. Autumnal Gentian, or Fell-wort, is, *Gentiana corollis quinquefidis hypocrateriformibus fauce barbatis.* In the *Hortus Cliffort.* it is termed, *Gentiana corollis hypocrateriformibus fauce barbatis.* Guettard calls it, *Gentiana floribus confertis, faucibus membranuâ laciniatâ clauſis, foliis ovato-acuminatis*; and Caſpar Bauhine, *Gentiana pratenſis, flore lanuginoſo*; alſo, *Gentiana autumnalis ramoſa.* It grows naturally in dry paſtures and meadows in England, and moſt parts of Europe.

Filiformis.

3. Marſh Centaury is, *Gentiana corollis quadrifidis imberbibus, caule dichotomo filiformi.* Sauvages calls it, *Gentiana corollis infundibuliformibus quadrifidis, pedunculis ternis, foliis linearibus*; Guettard, *Gentiana caule dichotomo, foliis lineari-lanceolatis floribus infundibuliformibus quadrifidis longiſſimè pedunculatis*; Ray, *Centaurium paluſtre luteum minimum*; and Caſpar Bauhine, *Centaurium luteum.* It grows naturally in marſhy rotten grounds in England and France.

Perfoliata.

4. Perfoliate Centaury is, *Gentiana corollis octifidis, foliis perfoliatis.* In the *Hortus Cliffort.* it is termed, *Gentiana caule dichotomo, foliis connatis, corollis octifidis.* Caſpar Bauhine calls it, *Centaurium luteum perfoliatum*; and Cluſius, *Centaurium parvum flore luteo.* It grows naturally in France, Spain, and the Eaſt.

Nivalis.

5. Lapland Gentian is, *Gentiana corollis quinquefidis infundibuliformibus, ramis unifloris alternis.* In the *Flora Suecia* it is termed, *Gentiana corollis infundibuliformibus quinquedentatis, ramis alternis unifloris*;

unifloris; in the *Flora Lapp. Gentiana corollâ infundibuliformi, denticulo laciniis interpoſito.* Haller calls it, *Gentiana humillima, caule ramoſo, tubo floris longiſſimo*; Caſpar Bauhine, *Gentiana Alpina æſtiva, centaureæ minoris folio*; and Oeder, *Gentiana* 9. It grows naturally on the tops of the Lapland, Helvetian, and Pyrenean mountains.

Aurea. 6. Golden Gentian is, *Gentiana corollis quinquefidis infundibuliformibus acuminatiſſimis; fauce imberbi muticâ, ramis oppoſitis.* Barrelier calls it, *Gentiana Alpina pumila, flore aureo.* It is a native of the Alps of Lapland and Norway.

Aquatica. 7. Dwarf Siberian Gentian is, *Gentiana corollis quinquefidis infundibuliformibus terminalibus ſeſſilibus, foliis margine membranaceis.* In the *Amœn. Acad.* it is called, *Gentiana foliis margine membranaceis baſi coadunatis.* Amman terms it, *Gentiana humilis aquatica verna.* It grows naturally in Siberia.

Utriculosa. 8. Bladder Gentian is, *Gentiana corollis quinquefidis hypocrateriformibus, calycibus plicato-alatis.* Caſpar Bauhine calls it, *Gentiana utriculis ventricoſis*; Columna, *Gentianella cærulea cordata*; and Barrelier, *Gentianella annua, azureo flore.* It grows naturally on the Helvetian, Auſtrian, and Italian mountains.

Centaureum. 9. Leſſer Centaury is, *Gentiana corollis quinquefidis infundibuliformibus, caule dichotomo.* In the *Hortus Cliffort.* it is termed, *Gentiana foliis lineari-lanceolatis, caule dichotomo, corollis infundibuliformibus quinquefidis.* Caſpar Bauhine calls it, *Centaurium minus*; John Bauhine, *Centaurium minus flore purpureo & albo*; Parkinſon, *Centaurium minus vulgare*; Gerard, *Centaurium parvum*; and Vaillant, *Centaurium minus paluſtre ramoſiſſimum, flore purpureo.* It grows naturally in dry ſterile paſtures in England, and moſt countries of Europe.

10. Spiked Centaury is, *Gentiana corollis quinquefidis infundibuliformibus, floribus alternis ſeſſilibus.* Spicata. Sauvages calls it, *Gentiana corollis infundibuliformibus quinquefidis laxè ſpicatis, foliis lanceolatis*; Caſpar Bauhine, *Centaurium minus ſpicatum album*; Tabernæmontanus, *Centaurium minus album*; and Tournefort, *Centaurium minus ſpicatum, flore rubello.* It grows naturally in moiſt meadow-grounds in Italy, and the South of France.

11. American Large-flowered Centaury is, *Gentiana corollis quinquefidis coronatis crenatis, pedunculo terminali longiſſimo dichotomo.* Exaltata. Plumier calls it, *Centaurium minus maritimum, amplo flore cæruleo.* It grows naturally in America.

12. Cape Centaury is, *Gentiana corollis quinquefidis hypocrateriformibus, calycibus membranaceo-carinatis, caule dichotomo, foliis cordatis.* Exacoides. Burman calls it, *Centaurium perfoliatum, florum calyce membranaceo-ventricoſo*; and Plukenet, *Centaurium luteum flore amplo, capſulis quatuor alis membranaceis.* It is a native of the Cape of Good Hope.

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CHAP. CLIII.

GERANIUM, CRANE's BILL.

OF this genus there are the following Annuals:

Species.

1. Coriander-leaved Crane's Bill.
2. Hemlock-leaved Crane's Bill.
3. Muſk Crane's Bill, or Muſcovy.
4. Chioan Crane's Bill.
5. Sea Crane's Bill.
6. Cretan Crane's Bill.
7. Valleſian Crane's Bill.
8. Shining Dove's Foot Crane's Bill.
9. Bohemian Crane's Bill.
10. Common Dove's Foot Crane's Bill.
11. Jagged-leaved Dove's Foot Crane's Bill.
12. Carolina Crane's Bill.
13. Long-ſtalked Dove's Foot Crane's Bill.
14. Round-leaved Crane's Bill.
15. Small-flowered Dove's Foot Crane's Bill.
16. Herb Robert.

Deſcription of the Coriander-leaved

1. Coriander-leaved Crane's Bill. The ſtalk is herbaceous, ſmooth, branching, and grows to about a foot high. The leaves are doubly winged, and grow from the joints; the lower ones have long footſtalks, but thoſe on the upper part of the plant ſit cloſe. The flowers are produced from the ſides of the ſtalks, oppoſite to the leaves, on naked footſtalks; they are ſhaped a little like the papilionaceous kinds, the upper petals being large, and the under ones narrow and reflexed; they are of a pale-fleſh colour, come out in July, and the ſeeds ripen in September.

and Hemlock-leaved Crane's Bill,

2. Hemlock-leaved Crane's Bill. This plant is of the muſky kind, but without ſcent. The leaves are winged; the lobes are cut into many obtuſe ſegments, and they lie flat on the ground. The ſtalks are very ſlender, ſhort, and hairy. The flowers are produced from the ends of the branches: One common footſtalk uſually ſupports three or four flowers, which are ſmall, and of a light-purple colour; they come out in May, June, and July; and the ſeeds ripen ſoon after the flowers fall.

Variety.

There is a variety of this ſpecies with white flowers.

Deſcription of the Muſk Crane's Bill.

3. Muſk Crane's Bill, or Muſcovy. The leaves are winged; the lobes grow for the moſt part alternately, and their edges are cut into many ſegments; they are poſſeſſed of a muſky fragrance, which occaſions this plant being in high eſteem with ſome people. The ſtalks are ſlender, hairy, weak, and often decline to the ground. The flowers are produced from the ends of the branches: Six or eight grow together on one common long footſtalk, each having its own ſeparate ſhort footſtalk; they are ſmall, and of a pale-red colour; they come out moſt of the ſummer

months, and the ſeeds ripen, in order of ſucceſſion, ſoon after the flowers are paſt.

Variety.

There is a variety of this ſpecies with blue flowers, and another with leaves like thoſe of Pimpernel.

Chioan,

4. Chioan Crane's Bill. The ſtalks grow to about a foot high. The lower-leaves are heart-ſhaped, and cut on the edges; the upper-leaves are lyre-ſhaped. The flowers grow, many together, on a footſtalk; they appear in June and July, and ripen their ſeeds ſoon after.

Sea,

5. Sea Crane's Bill. The ſtalks are ſlender, weak, and procumbent. The leaves are heart-ſhaped, oval, hairy, rough, and deeply indented or cut into ſeveral obtuſe ſegments. Three or four flowers only grow together on a footſtalk; they are ſmall, come out in June and July, and their ſeeds ripen ſoon after.

Cretan,

6. Cretan Crane's Bill. The ſtalks are about two feet long. The leaves are winged, crenated, or cut into many ſegments, and grow oppoſite to each other on the ſtalks. The flowers grow from the wings of the ſtalks on moderately long footſtalks. Each footſtalk ſupports an uncertain number of flowers, ſometimes there being two or three only, and ſometimes many growing together; their colour is a pale-blue; they appear earlier or later in the ſummer, according as the ſeeds have been ſown; and the beaks which ſucceed them are ſuppoſed to be the longeſt of any of the *Geranium* tribe.

Valleſian,

7. Valleſian Crane's Bill. This plant hath very much the appearance of the former. The ſtalks are ſlender, and incline to the ground. The leaves are winged, decurrent, pinnatifid, and obtuſe. The flowers are produced from the wings of the ſtalks during moſt of the ſummer months; three or four, and ſometimes more grow together on one common footſtalk; and they are ſucceeded by beaks, which are nearly if not quite as long as the former.

Shining Dove's Foot,

8. Shining Dove's Foot Crane's Bill. This plant grows by the ſides of paths, on rocks, old walls, &c. and is deemed a weed in gardens, though it has many beauties to recommend it to our notice. The leaves are round, lucid, reddiſh, and conſiſt each of five lobes. The flowers are ſmall, of a red colour, and two only grow together on a footſtalk; they come out in May, and ripen their ſeeds ſoon after.

Bohemian

9. Bohemian Crane's Bill. The ſtalks are weak, hairy, of a brown colour, divide into many parts, and incline to the ground. The leaves are five-lobed, rough, obtuſe, crenated, and of a bad green colour. The flowers are of a fine blue colour, and their petals are indented; two only grow together on a footſtalk; they come out in May, June, or later, as it happens; and the ſeeds ripen ſoon after the flowers are fallen.

Common Dove's Foot,

10. Common Dove's Foot Crane's Bill. The ſtalks are hairy, browniſh, diffuſe, and lie on the ground. The leaves are rough, round, five-lobed, crenated, and grow on long footſtalks. The flowers are of a bright-purple colour, and their petals are bifid; two only grow together on a footſtalk; they flower in May, and ripen their ſeeds in June.

Jagged-leaved Dove's Foot,

11. Jagged-leaved Dove's Foot Crane's Bill. The ſtalks are pretty ſtrong, and grow erect. The leaves are large, and grow on long footſtalks; they are roundiſh, and each of them is compoſed of about five lobes, which are very much cut or jagged at the edges. The flowers are white, or of a purple colour, and their petals are emarginated; two only grow together on a footſtalk; they come out moſt of the ſummer months, and ripe ſeeds ſucceed the flowers in order, about a month after they are fallen.

Carolina,

12. Carolina Crane's Bill. The ſtalks are hairy, branching, and of a browniſh colour. The leaves are cut into a multitude of ſegments. The flowers are of a red or purple colour, their petals are indented, and two only grow together on a footſtalk; they come out in June and July, and are ſucceeded by black hairy capſules, containing the ſeeds.

Long-ſtalked Dove's Foot,

13. Long-ſtalked Dove's Foot Crane's Bill. The leaves of this ſpecies are angular, and conſiſt of five parts, which are cut into a multitude of acute ſegments. The flowers grow from the wings of the ſtalks on exceeding long footſtalks, each of which ſupports two flowers only; they come out in June and July, and are ſucceeded by ſmooth capſules, containing the ſeeds.

Round-leaved,

14. Round-leaved Crane's Bill. The ſtalks are viſcous, and lie flat on the ground. The leaves are kidney-ſhaped, and their edges are divided. The flowers are of a fine blue colour, and their petals are entire; two only grow together on a footſtalk; they appear moſt of the ſummer months, and produce plenty of ſeeds for a ſucceſſion.

and Small-flowered Dove's Foot Crane's Bill deſcribed.

15. Small-flowered Dove's Foot Crane's Bill. This is a very ſmall proſtrate plant. The leaves are kidney-ſhaped, palmated, and cut into many acute ſegments. The flowers are blue, and very ſmall; two only grow together on a footſtalk; they come out in May, June, and July, and the ſeeds ripen in order of ſucceſſion.

Herb Robert deſcribed.

16. Herb Robert is a Biennial, and grows common by ditches and lanes in moſt parts of England. The ſtalks are reddiſh, hairy, brittle, and more than a foot long. The leaves are divided into three or five parts; they are deeply cut, often of a reddiſh colour, and very diſagreeably ſcented. The flowers are of a red or purple colour; two only grow together on a footſtalk, having hairy cups; they make their appearance from the beginning to almoſt the end of ſummer; and afford more ſeeds than could be wiſhed for the ſucceſſion.

Plants of foreign growth are generally ſought after for the garden, be their properties ever ſo mean; whilſt the natural produce of our own iſland are frequently rejected, though their properties be ever ſo excellent.

Some reaſons may be given for both theſe practices. By cheriſhing plants, though ſeemingly ever ſo mean, from diſtant countries, we enlarge the bounties of Nature in our own iſland, and make it more replete with her works; we are charmed with a new ſort, which our eyes have never been accuſtomed to behold; and the reflection of a new acquiſition being gained to our own ſtock, cauſes us to embrace it with greedineſs and pleaſure.

Plants that are to be found in our fields and woods, though ever ſo delightful, may be ſaid to be not ſtrictly objects of our culture. There we may behold them glowing in their native eaſe; and the introducing them into our gardens, may be ſaid to make them too common, and to diminiſh the eſteem we ought to have for them.

In confined or private gardens people may act as they pleaſe; and indeed they ought to ſuit their taſte with juſt ſuch a ſelect ſett of plants as their bounds will contain. But where general collections are ſought after, the produce of our own country ought to be equally reſpected with thoſe of foreign parts; their culture is eaſier; and though they may give little pleaſure from the newneſs of the ſight, yet they make ſome amends by preſenting themſelves in the true garb Nature deſigned them to wear.

With reſpect to the plants before us, ſome few are of diſtant countries; but the generality of them grow wild, as weeds, in ſome part or other of our iſland; nay, Herb Robert is found growing almoſt every-where. With regard to this plant, it would be altogether needleſs to admit it into the garden; and I mention it here only to introduce the title of ſuch an uſeful plant. The others, though growing naturally in ſome parts of England, do not overſpread the country in ſo general a manner; and in thoſe places where they do not abound, their preſence in the garden may be more acceptable.

They are not, therefore, recommended as fine flowering Annuals; but they are here deſcribed, that the ſtudent may know what Nature grants; and may, if he pleaſes, have a few of each ſort to be ever ready at hand for obſervation.

Culture. The culture of all the foregoing ſorts, except the firſt, is exceeding eaſy. Sow the ſeeds, ſoon after they are ripe, in any place or ſituation, and they will readily grow and maintain the ſucceſſion by flowering, and ſcattering their ſeeds; which will produce freſh plants, that will require no trouble except thinning them where they appear too cloſe, and keeping them clean from weeds. If the ſeeds are ſown in Auguſt, the plants will come up, and flower early the ſummer following; if they are ſown in the ſpring, they will flower later; and thus their time of blow may be accelerated or retarded at pleaſure.

The firſt ſpecies ſhould be brought forward by ſowing the ſeeds on a moderate hotbed in the ſpring; they ſhould have plenty of air and water; and in May they may be tranſplanted into a warm border, where they will flower in July, and ripen their ſeeds in September.

Titles. Coriandrifolium. 1. Coriander-leaved Crane's Bill is titled, *Geranium calycibus monophyllis, foliis bipinnatis linearibus ſquarroſis, caule herbaceo læviuſculo.* Herman calls it, *Geranium Africanum coriandri folio, floribus incarnatis, minus*; and Rivinus, *Geranium foliis coriandri*; alſo, *Geranium Africanum, coriandri.* It grows naturally in Æthiopia.

Cicutarium. 2 Hemlock-leaved Crane's Bill is, *Geranium pedunculis multifloris, floribus pentandris, foliis pinnatis inciſis obtuſis.* Caſpar Bauhine calls it, *Geranium cicutæ folio, minus & ſupinum*; and Dodonæus, *Geranium ſupinum.* It grows naturally in England, and moſt countries of Europe.

Moschatum. 3. Musk Crane's Bill, or Muſcovy, is, *Geranium pedunculis multifloris, floribus pentandris, foliis pinnatis inciſis, cotyledonibus pinnatifidis.* Caſpar Bauhine calls it, *Geranium, cicutæ folio, moſchatum.* It grows naturally in the Eaſt.

Chium. 4. Chioan Crane's Bill is, *Geranium pedunculis multifloris, floribus pentandris, foliis cordatis inciſis: ſuperioribus lyrato-pinnatifidis.* Tournefort calls it, *Geranium Chium vernum, caryophyllatæ folio.* It grows naturally in Chio.

Maritimum. 5. Sea Crane's Bill is, *Geranium pedunculis multifloris, floribus pentandris, foliis cordatis* ~~*ſublobatis.*~~ ſcabris caule procumbentibus Van Royen calls it, *Geranium pedunculis bifloris, foliis ovatis hirſutis crenato-inciſis obtuſis, caulibus procumbentibus*; Caſpar Bauhine, *Geranium folio althææ*; and Lobel, *Geranium Malacoides.* It grows naturally on many of our ſandy coaſts.

Malacoides.

Gruinum. 6. Cretan Crane's Bill is, *Geranium pedunculis ſubmultifloris, floribus pentandris, foliis ternatis lobatis.* In the *Hortus Cliffort.* it is termed, *Geranium pedunculis multifloris pentandris*; in the *Vir. Cliff. Geranium pedunculis bifloris pentandris, radice annuâ.* Caſpar Bauhine calls it, *Geranium latifolium, acu longiſſimâ*; John Bauhine, *Geranium ſpecioſum annuum, longiſſimis roſtris, Creticum.* It grows naturally in Crete.

7. Valleſian Crane's Bill is, *Geranium pedunculis multifloris, floribus pentandris, foliis pinnatis pinnatifidis obtuſis.* Caſpar Bauhine calls it, *Geranium cicutæ folio, acu longiſſimâ*; and Columna, *Geranium Apulum coriandrifolium.* It grows naturally in Italy, Valleſia, and near Montpelier in France. Ciconium.

8. Shining Dove's Foot Crane's Bill is, *Geranium pedunculis bifloris, calycibus pyramidatis angulatis elevato-rugoſis, foliis quinquelobis rotundatis.* Caſpar Bauhine calls it, *Geranium lucidum ſaxatile*; Gerard, *Geranium ſaxatile*; and Columna, *Geranium rotundifolium ſaxatile montanum.* It grows naturally in ſandy, rocky, ſhady places in England, and moſt countries of Europe. Lucidum.

9. Bohemian Crane's Bill is, *Geranium pedunculis bifloris, petalis emarginatis, arillis hirtis, cotyledonibus trifidis medio truncatis.* Dillenius calls it, *Geranium batrachioides Bohemicum, capſulis nigris hirſutis*; Ray, *Geranium Bohemicum batrachioides annuum*; and Moriſon, *Geranium batrachioides minus annuum purpureo-cæruleum.* It grows naturally in Bohemia. Bohemicum.

10. Common Dove's Foot Crane's Bill is, *Geranium pedunculis bifloris foliiſque floralibus alternis, caule ramoſo erectiuſculo, calycibus muticis, arillis lævibus.* In the *Flora Suecia* it is termed, *Geranium pedunculis bifloris, foliis quinquepartito-multifidis rotundatis: laciniis obtuſiuſculis, capſulis hirtis.* Haller calls it, *Geranium pedunculis bifloris, foliis ſparſis reniformibus ſemiquinquefidis mollibus & latiſſimis*; Magnol, *Geranium columbinum minus, majore flore & foliis bifidis*; and Vaillant, *Geranium columbinum villoſum, petalis bifidis purpureis.* It grows naturally in England, and moſt countries of Europe. Molle

11. Jagged-leaved Dove's Foot Crane's Bill is, *Geranium pedunculis bifloris, foliis quinquepartito-trifidis, petalis emarginatis longitudine calycis, arillis villoſis.* Moriſon calls it, *Geranium majus, foliis imis longis aduſque pediculum diviſis*; and Haller, *Geranium foliis ad nervum quinquefidis, pediculis brevioribus, caule erecto.* It grows naturally in England, and the South of Europe. Diſsectum.

12. Carolina Crane's Bill is, *Geranium pedunculis bifloris, calycibus ariſtatis, foliis multifidis, arillis hirſutis.* Dillenius calls it, *Geranium columbinum Carolinum, capſulis nigris hirſutis.* It grows naturally in Carolina and Virginia. Carolinianum.

13. Long-ſtalked Dove's Foot Crane's Bill is, *Geranium pedunculis bifloris folio longioribus, foliis quinquepartito-multifidis: laciniis acutis, arillis glabris, calycibus ariſtatis.* Vaillant calls it, *Geranium columbinum, foliis diſſectis, pediculis florum longiſſimis.* It grows naturally in England, Switzerland, and Germany. Columbinum.

14. Round-leaved Crane's Bill is, *Geranium pedunculis bifloris, petalis integris obtuſiſſimis longitudine calycis, caule proſtrato, foliis reniformibus inciſis.* In the *Hortus Cliffort.* it is termed, *Geranium pedunculis bifloris, foliis ſubrotundis multifidis, caule procumbente.* Caſpar Bauhine calls it, *Geranium folio malvæ rotundo*; Vaillant, *Geranium columbinum majus, flore minore cæruleo.* It grows naturally in England, and moſt parts of Europe. Rotundifolium.

15. Small-flowered Dove's Foot Crane's Bill is, *Geranium pedunculis bifloris, petalis bifidis, caule diffuſo, foliis reniformibus palmatis linearibus acutis.* Ray calls it, *Geranium columbinum humile, flore cæruleo minore*; Caſpar Bauhine, *Geranium columbinum tenuius laciniatum*; and Parkinſon, *Geranium Malacoides, ſ. columbinum minimum.* It grows naturally in many parts of England. Puſillum.

16. Herb

Roberti-anum. 16. Herb Robert is, *Geranium pedunculis bifloris, calycibus piloſis decemangulatis.* In the *Hortus Cliffort.* it is termed, *Geranium pedunculis bifloris, foliis quinque-trivepartitis, lobis pinnatifidis, calycibus hirſutis.* Caſpar Bauhine calls it, *Geranium Robertianum primum*; Gerard, *Geranium Robertianum*; and Parkinſon, *Geranium Robertianum vulgare.* It grows naturally in England, and moſt of the northern countries of Europe.

CHAP. CLIV.

GERARDIA.

OF this genus there is a beautiful Annual, called, Purple *Gerardia.*

The plant deſcribed. The ſtalk is ſlender, ſmooth, a foot and a half high, uſually ſimple, tho' ſometimes branching a little. The leaves are narrow, ſpear-ſhaped, entire, and ſome of them grow oppoſite, whilſt others are placed alternately on the ſtalks. The flowers come out ſingly from the wings of the leaves, ſome having footſtalks, and others ſitting cloſe. They are of a delightful purple colour, appear in July and Auguſt, and the ſeeds ripen in the autumn.

Culture. This plant is propagated by ſowing the ſeeds on a moderate hotbed, in the ſpring. When they come up, they muſt have plenty of air, to prevent their drawing weak, and be frequently watered. In May they may be taken out with a ball of earth to each root, and ſet in ſome warm well-ſheltered part of the garden, where they muſt be ſhaded and watered until they have taken root, where they will flower, and perfect their ſeeds.

Titles. Purpurea. This ſpecies is titled, *Gerardia foliis linearibus.* Gronovius calls it, *Digitalis foliis linearibus, floribus remotis*; alſo, *Digitalis rubra minor, labiis florum patulis foliis parvis anguſtis*; and Plukenet, *Digitalis Virginiana rubra*; *foliis & facie antirrhini vulgaris.* It grows naturally in Virginia and Canada.

Claſs and order in the Linnæan ſyſtem. The characters. *Gerardia* is of the claſs and order *Didynamia Angioſpermia*; and the characters are,

1. Calyx is a monophyllous, upright, permanent perianthium, divided into five acute ſegments.

2. Corolla is one ringent petal. The tube is taper, and longer than the calyx. The upper lip is erect, obtuſe, plane, broader than the other, and indented at the top. The lower lip is reflexed, and divided into three emarginated ſegments, the middle one being the ſhorteſt, and cut into two parts.

3. Stamina are four filaments ſcarcely the length of the tube, of which two are a little the ſhorteſt, having ſmall antheræ.

4. Pistillum conſiſts of a ſmall oval germen, a ſimple ſhort ſtyle, and an obtuſe ſtigma.

5. Pericarpium is an oval capſule formed of two valves, containing one cell, and opening at the baſe.

6. Semen. The ſeed is oval, and ſingle.

CHAP.

CHAP. CLV.

GEROPOGON.

THERE are only two ſpecies of this genus, called,

Species.

1. The Smooth-leaved *Geropogon.*
2. The Hairy-leaved *Geropogon.*

Deſcription of Smooth-leaved

1. The Smooth-leaved *Geropogon* riſes to about a foot in height. The leaves are long, narrow, ſmooth, and entire. The flowers are of a pale-red colour; they are of the diſcous kind, and the rays of the flowers are ſhorter than the ſegments of the cups; they will be in blow in July, and are ſucceeded by ſmooth ripe ſeeds, crowned with down, in the autumn.

and Hairy-leaved Geropogon.

2. Hairy-leaved *Geropogon.* The ſtalk of this plant hardly riſes to a foot high. The leaves are long, narrow, entire, and very hairy. The flowers are of a beautiful red colour. The leaves of the cups are longer than the rays of the corolla; they flower in July, and are ſucceeded by ſmooth ſeeds, crowned with down, in September.

Culture.

Theſe plants are eaſily propagated, by ſowing the ſeeds the end of March, or the beginning of April, in beds of good, light, rich earth. When the plants come up, they ſhould be thinned to about ſix or eight inches diſtance from each other; and this, beſides keeping them clean from weeds, and watering them if a very dry ſeaſon ſhould happen, is all the trouble they will require until you collect freſh ſeeds for a ſucceſſion.

Titles.

Glabrum

1. The firſt ſpecies is titled, *Geropogon foliis glabris.* In the *Hortus Upſal.* it is termed, *Tragopogon calycibus corollæ radio longioribus, foliis integris, ſeminibus lævibus: diſci plumoſis, radiis ſetaceis.* Ray calls it, *Tragopogon, gramineo folio, glabrum, flore dilutè incarnato.* It is a native of Italy.

Hirsutum

2. The ſecond ſort is titled, *Geropogon foliis piloſis.* Caſpar Bauhine calls it, *Tragopogon gramineis foliis hirſutis*; and Columna, *Tragopogon gramineo folio, ſuaverubente flore.* It grows naturally in Italy.

Claſs and order in the Linnæan ſyſtem. The characters.

Geropogon is of the claſs and order *Syngeneſia Polygamia Æqualis*; and the characters are,

1. CALYX. The general calyx is compoſed of ſeveral ſpear-ſhaped, ſubulated, carinated, erect leaves, that are longer than the corolla.

2. COROLLA. The general flower is ſubimbricated and uniform. The florets are of one petal, tongue-ſhaped, truncated, and indented at the top in five parts.

3. STAMINA conſiſt of five very ſhort filaments, with a cylindrical tubulous anthera.

4. PISTILLUM conſiſts of an oblong germen, a filiforme ſtyle the length of the ſtamina, and two recurved filiforme ſtigmas.

5. PERICARPIUM. There is none. The ſeeds are contained in the erect, oblong calyx.

6. SEMINA. The ſeeds are ſmooth, and awl-ſhaped. Thoſe of the radius have a bearded, and thoſe on the diſk have a feathery down.

The receptacle is naked.

CHAP. CLVI.

GNAPHALIUM, CUDWEED.

Species.

THE Annuals of *Gnaphalium* are,
1. Jerſey Cudweed.
2. Obtuſe-leaved Cudweed.
3. Stinking African Cudweed.
4. Waved leaved Cudweed.
5. Sand Cudweed.
6. Purple Cudweed.
7. Black-headed Cudweed.
8. Upright Cudweed.
9. Cape Annual Cudweed.

Deſcription of Jerſey,

1. Jerſey Cudweed. Of this ſpecies there are two ſorts, the White and the Pale-yellow. The ſtalks of the White are very woolly, and about eight inches high. The leaves are oblong, woolly on both ſides, and embrace the ſtalk with their baſe. The flowers are collected in cloſe bunches at the ends of the ſtalks; their cups are of a ſilvery-white colour, gloſſy, and very beautiful. The ſtalks of the Pale-yellow are woolly, and grow to about a foot high. The leaves are narrower than the White ſort, though very woolly, and embrace the ſtalk with their baſe. The flowers grow in cloſe bunches at the ends of the ſtalks, have gloſſy, permanent cups, and are of a pale or whitiſh-yellow colour. The flowers of both theſe varieties appear in July, and the ſeeds ripen in September.

Obtuſe-leaved,

2. Obtuſe-leaved Cudweed. The ſtalk is erect, woolly, and about nine inches high. The leaves are ſpear-ſhaped, obtuſe, and woolly. The flowers are produced from the tops of the ſtalks in ſhort ſpikes, and are of a yellow colour, having white, conical, gloſſy cups; they appear in July and Auguſt, and the ſeeds ripen in September.

and Stinking African Cudweed.

3. Stinking African Cudweed. The ſtalk is woolly, branching, and about a foot and a half high. The leaves are broad at the baſe, where they embrace the ſtalk; are ſharp-pointed; entire; of a yellowiſh-green colour on their upperſide, but downy underneath; ſtrongly ſcented; and grow alternately. The flowers terminate the branches in roundiſh heads, are of a ſilvery-white colour, appear in July and Auguſt, and the ſeeds ripen in September.

Variety.

There is a variety of this ſpecies with flowers of a bright-yellow colour.

Waved-leaved,

4. Waved-leaved Cudweed. The ſtalks are white, upright, branching, and grow to about a foot high. The leaves are oblong, pointed, decurrent, waved, hoary on the under-ſide, and diſagreeably ſcented. The flowers are produced in a corymbus on the tops of the ſtalks, are of a white colour, appear in July, and the ſeeds ripen in the autumn.

Sand,

5. Sand Cudweed. The ſtalks of this ſpecies are herbaceous, ſimple, and eight or ten inches high. The lower leaves are oblong, and obtuſe; but thoſe near the top of the ſtalk are ſpear-ſhaped, and pointed. The flowers terminate the ſtalks in a compound corymbus, are of a yellow colour, appear in July, and the ſeeds ripen in September. This ſpecies grows naturally on ſandy, deſert places, and is ſeldom admitted into gardens.

Purple,

6. Purple Cudweed. The ſtalk is erect, firm, ſimple, and about a foot and a half high. The leaves are ſpear-ſhaped, and the lower ones are obtuſe. The flowers are produced in ſpikes from the ends and ſides of the ſtalks; they ſit cloſe, are of a purple colour, appear in July, and the ſeeds ripen in the autumn.

Black-headed,

7. Black-headed Cudweed. The ſtalks are white, branching, and about ſix or eight inches high. The leaves are long, narrow, ſoft, and woolly. The flowers are produced in cluſters from the ends of the branches, and have their heads round, and of a bluiſh colour; they appear in July, and the ſeeds ripen in September. This ſpecies grows naturally in moiſt grounds, and even in ſtanding-waters, in England; and is not introduced into the garden, unleſs to be ready for the ſake of obſervation.

Upright,

8. Upright Cudweed. The ſtalk is erect, ſimple, ſlender, and about a foot high. The leaves are long, narrow, hoary on their underſide, and grow alternately. The flowers are produced in ſhort ſpikes from the wings of the leaves, are of a white colour, appear in July, and the ſeeds ripen in the autumn. This ſpecies grows common in woods and ſandy paſtures in England, and is rarely cultivated in gardens.

and Cape Annual Cudweed deſcribed.

9. Cape Annual Cudweed. The ſtalks are herbaceous, woolly, ſend forth numerous, irregular branches, and grow to about eight inches high. The leaves are ſpear-ſhaped, ſoft, downy, and embrace the ſtalks with their baſe. The flowers are produced in roundiſh heads from the ends and ſides of the branches; the inner ſcales of the cups are long, awl-ſhaped, channelled, ferrugineous, and recurved. The plant exhibits its bloom in July or Auguſt, and the ſeeds ripen in the autumn.

Culture.

All theſe ſpecies are eaſily propagated by ſowing the ſeeds, in the autumn or ſpring, in beds of any common mould made fine. If they are ſown in the autumn, they will for the moſt part flower about July the ſummer following, and the ſeeds will ripen in September. If they are ſown in the ſpring, their time of blow will be later in ſummer; ſo that, in order to obtain a ſucceſſion, a ſowing ſhould be made at theſe two different times of the year.

After they have once flowered and ſhed their ſeeds, there is hardly any of them that will not ſpontaneouſly maintain their ſucceſſion without any trouble; nay, ſome of the ſpecies, particularly thoſe of Engliſh growth, which may be ſeen after the titles, will come up in ſuch plenty from ſcattered ſeeds, as to become as troubleſome as weeds, to reduce them to a proper number.

Titles.

1. Jerſey Cudweed is titled, *Gnaphalium herbaceum, foliis ſemiamplexicaulibus enſiformibus repandis obtuſis utrinque pubeſcentibus, floribus conglomeratis.*

Luteo Album.

meratis. Caſpar Bauhine calls it, *Elichryſum ſylveſtre latifolium, capitulis conglobatis*; alio, *Gnaphalium majus, lato oblongo folio.* John Bauhine names it, *Gnaphalium majus ad ſtæchadem citrinam accedens.* It grows naturally on dry banks and walls in England, and in the iſle of Jerſey.

Obtusifolium. 2. Obtuſe-leaved Cudweed is, *Gnaphalium herbaceum, foliis lanceolatis, caule tomentoſo paniculato, floribus terminalibus glomeratis conicis.* Gronovius calls it, *Gnaphalium foliis lanceolatis, caule tomentoſo, corymbis ſupradecompoſitis, floribus ſeſſilibus confertis*; Dillenius, *Elichryſum obtuſifolium, capitulis argenteis conglobatis*; and Moriſon, *Helichryſum chryſocoma gnaphaloides Virginiana annua, foliis obtuſioribus, capitulis argenteis conglobatis.* It grows naturally in Virginia and Penſylvania.

Fœtidum. 3. Stinking African Cudweed is, *Gnaphalium herbaceum, foliis amplexicaulibus integerrimis acutis ſubtus tomentoſis, caule ramoſo.* Commeline calls it, *Gnaphalium Africanum latifolium fœtidum, capitulo argenteo*; and Plukenet, *Conyza Africana graveolens, capitulis argenteis.* It is a native of Æthiopia.

Undulatum. 4. Waved-leaved Cudweed is titled, *Gnaphalium herbaceum, foliis decurrentibus lanceolatis acutis undatis ſubtus tomentoſis, caule ramoſo.* Dillenius calls it, *Elichryſum graveolens acutifolium, caule alato.* It is a native of Africa.

Arenarium. 5. Sand Cudweed is, *Gnaphalium herbaceum, foliis lanceolatis, inferioribus obtuſis, caule ſimpliciſſimo, corymbo compoſito.* Caſpar Bauhine calls it, *Elichryſum, ſ. ſtæchas citrina latifolia*; and John Bauhine, *Stæchas citrina Germanica, latiore folio.* It grows naturally in ſandy places in moſt parts of Europe.

6. Purple Cudweed is, *Gnaphalium herbaceum, foliis lanceolatis nudis, caule erecto ſimpliciſſimo, floribus ſpicatis lateralibus ſeſſilibus.* Dillenius calls it, *Elichryſum ſpicatum obtuſifolium baſi anguſtiore*; and Moriſon, *Gnaphalium ſpicatum majus non ramoſum erectum Virginianum, foliis obtuſioribus.* It is a native of North America. Purpureum.

7. Black-headed Cudweed is, *Gnaphalium herbaceum, caule ramoſo diffuſo, floribus confertis terminalibus.* Ray calls it, *Gnaphalium longifolium humile ramoſum, capitulis nigris*; Moriſon, *Gnaphalium annuum ſerotinum, capitulis nigricantibus, in humidis gaudens*; and Parkinſon, *Filago minor.* The chief habitation of this ſpecies is in places which at times are overflowed with water; and in ſuch it is found growing naturally in England and moſt countries of Europe. Uliginosum.

8. Upright Cudweed is, *Gnaphalium caule ſimpliciſſimo, floribus ſparſis.* Caſpar Bauhine calls it, *Gnaphalium majus, anguſto oblongo folio, alterum*; John Bauhine, *Gnaphalium rectum*; and Gerard, *Gnaphalium Anglicum.* It grows naturally in ſandy paſtures, heathy ground, and woods, in England and moſt parts of Europe. Sylvaticum.

9. Cape Annual Cudweed is, *Gnaphalium herbaceum, foliis ſubamplexicaulibus lanceolatis, calycum ſquamis interioribus ſubulatis recurvis.* It grows naturally at the Cape of Good Hope. Glomeratum.

CHAP. CLVII.

GOMPHRENA, GLOBE AMARANTH.

OF this genus there is one ſpecies proper for this place, called the Globe Amaranth.

Intro-ductory remarks.

The Globe Amaranth is inferior to none, and ſuperior to moſt Annuals in beauty, and the ſingularity of its properties. The former is well known; and its glittering purple colour is ſo univerſally admired, as to cauſe its culture to become almoſt univerſal, where a perſon has any pretenſions to taſte and gardening. The ſingular properties of this plant add additional value to the flowers; for they do not, like others, wither almoſt as ſoon as gathered, but will, if gathered before they are too ripe, and dried in the ſhade, continue beautiful for ſome months. The contexture of their ſcales is of ſuch a nature, they are ſo dry, and their ſurface is ſo finely poliſhed, that it is no wonder this never-fading property ſhould belong to them. Hence, by ſome of our countrymen, this flower has been called The Everlaſting Flower; and among the French it frequently goes by the name *L'Immortel*; that is, the Never-dying flower. With what care, then, ſhould theſe flowers be gathered and preſerved! and how admirably calculated are they to ſerve the purpoſes of ornament in the winter-ſeaſon, when few flowers are to be collected! In the Catholick countries they are cultivated in amazing plenty; and their flowers are gathered and preſerved to adorn their churches and chapels in the winter-ſeaſon; tho' no ſuch cuſtom prevails with us. They may be made to look beautiful in our own rooms, and may be uſed as garniſh or ornaments to deſerts in entertainments, when they will not fail to add a pleaſing gaiety to ſuch part of our convivial repaſts.

There is only one real ſpecies of the Globe Amaranth, though there are ſeveral varieties; and as theſe varieties are for the moſt part preſerved from ſeeds, we ſhall direct our ingenious Gardener to ſow,

Varieties of this plant.

The Purple Globe Amaranth.
The White or Silvery Globe Amaranth.
The Mixed-coloured Globe Amaranth.
The Smaller Purple Globe Amaranth.
The Smaller White Globe Amaranth.

The laſt four ſorts are greatly inferior to the firſt, which is what we are principally to regard. The others may be propagated to add variety in the mixture, and to ſhew how bountiful Nature is in her pleaſing productions of this kind.

The

Deſcription of the Purple, and White, Mixed-coloured Globe Amaranths.

The Purple, the White, and the Mixed coloured Globe Amaranths, if cultured alike, grow all to a ſize: With good management they may be brought to near a yard in height. The ſtalk is branching and round, and thoſe of the Purple ſorts are tinged with purple at the joints. The branches grow oppoſite, and, the leaves alſo naturally grow oppoſite by pairs at the joints, having their upper ſurface whitiſh, and their under of a light-green colour; they are of an oval, lanceolate figure, and are ſupported by ſhort footſtalks. The flowers terminate the ends of the branches in round heads. The ſcales which form theſe heads are of a thin, dry, but firm conſiſtence, are oblong and pointed, and lie over each other in an imbricated manner. Thoſe of the firſt ſort are of a bright and glittering purple colour; the others are as they are above titled. Among theſe ſcales are ſituated the real flowers, which are ſmall, and of a ſtarry form. They are regarded by few, it being the imbricated covering which makes theſe plants ſo highly valued. They perfect their ſeeds well with us; but it is obſervable, that the ſeeds received from the Eaſt, where they grow naturally, for the moſt part raiſe the beſt plants. Our trade renders the receiving the ſeeds ſoon enough for ſowing practicable; and, if poſſible, let this method be purſued, and you may expect to find a great difference in your ſhow of theſe plants. But tho' it be neceſſary to procure ſeeds from the Eaſt for all the ſorts, it is more peculiarly ſo for the fourth and fifth; for theſe will flower later, and can not always be made to produce good ſeeds. The heads of theſe flowers, as the titles indicate, are ſmaller than thoſe of the other ſorts; but the plants naturally grow taller, and are more branching; and theſe differences I never yet found to vary from ſeeds.

Method of propagation.

In order to raiſe theſe beautiful plants, then, let a good hot-bed be prepared in February, or the beginning of March. Cover this hot-bed over with fine, rich, freſh, light mould, about five inches deep, and ſcatter the ſeeds thinly all over the bed; then riddle a little fine mould over them, ſufficient to cover them only about a quarter of an inch deep. If the ſeeds are good, the plants will readily come up; and when they are about an inch in height, they muſt be tranſplanted into another hot-bed. For theſe purpoſes, hollow trowels of different ſizes muſt be always ready; and with theſe ſcoop out the plants from the firſt hot-bed, and ſet them in the ſecond, with the preſerved earth at their roots, five or ſix inches aſunder. The ſoil in which they ſhould be planted muſt be freſh, and of the ſame nature with the former; and the bed muſt be covered with it ſix inches deep. A light and gentle watering muſt be obſerved at theſe times, and the plants will ſeem inſenſible of their removal. In three weeks or a month's time they will require a third hot-bed. This ſhould be large, and the frame deep; for the mould in it ought to be nine inches deep. Take them out with the uſual care with one of the larger ſcooping trowels, and ſet them, with the preſerved earth at their roots, in holes prepared for them at about ſix inches aſunder, and give them a moderate watering. All this time, in the courſe of the whole work, the glaſſes muſt be ſhaded with mats in the heat of the day; and they muſt have air ſufficient to prevent their being drawn up weak. In this as well as the other hot-beds they will grow briſkly; and when the heat of this laſt is abated, they muſt be planted out in the borders they are deſigned for; though, to ſhew them to advantage, it would be proper to plant them in a clump, the middle of which ſhould be firſt raiſed by additional ſoil; and thus ſituated, the appearance they will make will be very ſtriking and grand. At this third removal ſome of the ſtrongeſt ſhould be ſet in pots, which alſo ſhould be ſet in another hot-bed, to bring them ſtill forwarder, to obtain their ſeeds in greater perfection. This practice is more particularly required for the laſt two ſorts, which naturally flower later than the preceding.

Titles.

Globoſa.

The title of the Globe Amaranth is, *Gomphrena caule erecto, foliis ovato-lanceolatis, capitulis ſolitariis, pedunculis diphyllis.* Breynius calls it, *Amarantho affinis India Orientalis, floribus conglomeratis, ocymaſtri folio*; and Rumphius, *Flos globoſus.* It grows naturally in India.

Claſs and order in the Linnæan ſyſtem. The characters.

Gomphrena is of the claſs and order *Pentandria Digynia*; and the characters are,

1. CALYX is a large, coloured, compreſſed, permanent perianthium, compoſed of two navicular leaves, which are carinated on the out-ſide, but have their inner edges connivent.

2. COROLLA is erect, and divided to the baſe into five awl-ſhaped, permanent ſegments.

Nectarium is a cylindrical tube the length of the corolla, and divided at the brim into five ſmall, ſpreading ſegments.

3. STAMINA. There are five filaments, but ſo ſmall as hardly to be diſcernible; theſe are ſituated within the neck of the nectarium, and their erect antheræ cloſe the mouth thereof.

4. PISTILLUM conſiſts of an oval, pointed germen, and of two filiforme ſtyles, with ſimple ſtigmas the length of the ſtamina.

5. PERICARPIUM is a roundiſh capſule of one cell.

6. SEMEN. The ſeed is ſingle, roundiſh, and large.

CHAP.

CHAP. CLVIII.

GORTERIA.

OF this genus there is one ſhort-lived ſpecies, called Æthiopian *Carduus*, or Burr *Gorteria*

The plant deſcribed. The ſtalk is erect, ſomewhat taper, and hairy. The leaves are narrow, ſpear-ſhaped, ſinuated, ſeſſile, very rough, downy, and grow alternately. The flowers come out from the ends of the branches in rough, burr-like, oval heads, the rays being of a fine yellow colour, having a mixture of blue underneath; they appear in July and Auguſt, and the ſeeds ripen in the autumn.

Culture. This ſpecies is raiſed by ſowing the ſeeds on a ſlight hot-bed in the ſpring; and about the middle or end of May, the plants, being grown pretty ſtrong, ſhould be taken up, with a ball of earth to each root, and carefully planted in the full ground, in ſome warm, well-ſheltered place, where they will flower and perfect their ſeeds.

Titles. Personata. This ſpecies is titled, *Gorteria foliis lanccolatis integris ſinuatiſque, caule erecto, floribus pedunculatis.* Plukenet calls it, *Carduus Æthiopicus, perpuſillus, piloſellæ foliis incanis hiſpidis, perſonatæ capitulis.* It grows naturally at the Cape of Good Hope.

Claſs and order in the Linnæan Syſtem. *Gorteria* is of the claſs and order *Syngeneſia Polygamia Fruſtranea*; and the characters are,

The characters. 1. Calyx. The common calyx is monophyllous, and imbricated with prickly ſcales, the interior ones gradually becoming longer, ſtraight, ſtiff, and briſtly.

2. Corolla. The compound flower is radiated. The hermaphrodite florets are many in the diſk; the females fewer in the radius.

The hermaphrodite florets are funnel-ſhaped, and cut at the brim into five ſegments.

The females are ligulated, and ſpear-ſhaped.

3. Stamina of the hermaphrodites are five ſhort filaments, with a cylindrical, tubular anthera.

4. Pistillum of the hermaphrodites conſiſts of a hairy germen, a filiforme ſtyle the length of the corolla, and a bifid ſtigma; that of the females conſiſts of an obſolete germen, without either ſtyle or ſtigma.

5. Pericarpium. There is none.

6. Semina. The ſeeds of the hermaphrodites are ſingle, roundiſh, and crowned with hairy down.

The females have none.

The receptacle is naked.

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CHAP. CLIX.

GOSSYPIUM, COTTON.

THERE are three diſtinct ſpecies of Cotton for this place, called,

Species.
1. Common Herbaceous Cotton.
2. Shrubby Barbadoes Cotton.
3. Hairy American Cotton.

Deſcription of Common Herbaceous Cotton. 1. Common Herbaceous Cotton. The ſtalk is herbaceous, branching, and about a yard high. The leaves are compoſed of five lobes, are ſmooth, and the lower ones are large, but thoſe on the upper parts of the branches are proportionally ſmaller. The flowers are produced from the ends of the branches, are of a pale-yellow colour, appear in July and Auguſt, and are ſucceeded by roundiſh capſules containing the ſeeds wrapped up in the cotton.

Culture. This ſpecies is cultivated in Sicily, Italy, &c. in the manner of corn. It is ſown in the ſpring, and the crop will be fit for gathering about Auguſt or September.

Shrubby Barbadoes and Hairy American Cotton deſcribed. 2. Shrubby Barbadoes Cotton. The ſtalks are ſhrubby, ſend forth branches from the ſides, and grow to be ſix or eight feet high. The leaves are compoſed of three undivided lobes, are ſmooth on their upper-ſide, but ribbed and glandulous underneath. The flowers are produced from the ends of the branches, are moderately large, of a yellow colour, appear in Auguſt, and are ſucceeded by large pods containing the ſeeds, of a black colour, wrapped in the cotton.

3. Hairy American Cotton. The ſtalk is hairy, ſends forth ſeveral ſpreading, hairy branches from the ſides, and grows to be three or four feet high. The leaves conſiſt ſome of three, others of five lobes, are acute, and poſſeſſed of a ſhort hairy matter or down on their upper ſide. The flowers come out from the ends and ſides of the branches, and are of a ſulphur colour, having a large purple ſpot at the baſe of each petal; they appear in Auguſt, and are ſucceeded by large, oval pods, containing the ſeeds, of a greeniſh colour, wrapped in the cotton.

Culture. All theſe ſpecies are Annuals, and afford cotton for uſe. They are raiſed in England chiefly out of curioſity, and to afford variety in extenſive five collections of plants. The method of raiſing them is to ſow the ſeeds in pots, filled with freſh, light earth, in the ſpring. The pots muſt be then plunged up to the rims in the bark-bed. When the plants are all up, the weakeſt muſt be drawn out, leaving only one plant to each pot; and as this encreaſes in ſize, it muſt be ſhifted into a larger pot, care being taken to diſturb the root as little as poſſible. As the plants encreaſe in ſize, the glaſſes muſt be raiſed to give them room; for they muſt not be ſet abroad; or if there is the conveniency of a ſtove, they may be placed in the bark-bed therein. In either caſe, if they have met with no check in their management, they will flower in July or Auguſt, and in the autumn exhibit their large pods full of cotton and ripe ſeeds.

Titles. Herbaceum. 1. The firſt ſpecies is titled, *Goſſypium foliis quinquelobis, caule herbaceo lævi.* In the *Hortus Cliffort.* it is termed, *Goſſypium caule decumbente.* Caſpar Bauhine calls it, *Goſſypium fruteſcens, ſemine albo.* It grows naturally in America.

Barbadense. 2. The ſecond ſpecies is, *Goſſypium foliis trilobis integerrimis, ſubtus triglandulofis.* Plukenet calls it, *Goſſypium fruteſcens annuum, folio trilobo, Barbadenſe.* It grows naturally in Barbadoes.

3. The third ſpecies is, *Goſſypium foliis trilobis quinquelobiſve acutis, caule ramoſo hirſuto.* Tournefort calls it, *Xylon Americanum præſtantiſſimum, ſemine vireſcente.* It grows naturally in America. Hirsutum.

Claſs and order in the Linnæan ſyſtem. The characters. *Goſſypium* is of the claſs and order *Monadelphia Polyandria*; and the characters are,

1. Calyx is a double perianthium. The exterior is one large, plane, ſemitrifid leaf. The interior is one leaf, cup-ſhaped, and obtuſely indented at the edge.

2. Corolla is five, obcordated, plane, patent petals, which join at their baſe.

3. Stamina. There are numerous filaments inſerted in the corolla, which below coaleſce into a cylindrical column; above, they are looſe, and terminated by reniforme antheræ.

4. Pistillum conſiſts of a roundiſh germen, a columnar ſtyle the length of the ſtamina, and four thickiſh ſtigmas.

5. Pericarpium is a roundiſh, acuminated capſule, formed of three or four valves, and containing three or four cells.

6. Semina. The ſeeds are many, oval, and ſurrounded with that fine, downy matter called cotton.

CHAP. CLX.

GRONOVIA.

THIS genus admits only of one ſpecies, called *Gronovia.*

This plant deſcribed. The ſtalks are thick, branching, and trail on the ground, or riſe by the aſſiſtance of tendrils to the height of ſix or eight feet. The leaves are large, green, ſhaped like thoſe of the Vine, and poſſeſſed of numerous, ſmall, ſtinging ſpines on both ſides. The flowers are produced from the ends and ſides of the branches, are ſmall, of a greeniſh-yellow colour, appear in July and Auguſt, and the ſeeds ripen in the autumn.

Culture. This ſpecies is raiſed by ſowing the ſeeds on a good hot-bed early in the ſpring. The care neceſſary for the moſt tender plants muſt be afforded them until they are fit to remove, when they ſhould be planted in ſeparate pots, and plunged up to the rims in a bark bed. Here they muſt be ſhaded and watered until they have taken root; and as the plants increaſe in ſize, they may be ſuffered to trail upon the ground in the manner of the Cucumber, or they may be trained up to ſticks thruſt down for their ſupport. When the weather is very hot, they muſt have much air granted them, and frequent waterings; but they muſt always be protected from cold evenings and damps, as the ſpecies under conſideration is of a very tender nature. With ſuch careful management they will flower in July and Auguſt, and the ſeeds will ripen in September and October.

Titles. Scandens. There being no other ſpecies of this genus, it ſtands with the name, ſimply, *Gronovia.* Houſtoun calls it, *Gronovia ſcandens lappacea, pampineâ fronde.* It grows naturally at Vera Cruz.

Claſs and order in the Linnæan Syſtem The characters. *Gronovia* is of the claſs and order *Pentandria Monogynia*; and the characters are,

1. Calyx is a monophyllous, bell-ſhaped, coloured, permanent perianthium, cut below the middle into five ſemi-ſpear-ſhaped, erect ſegments.

2. Corolla is five very ſmall, roundiſh petals, ſituated in the inciſures of the calyx.

3. Stamina are five capillary filaments, the length of the corolla, and inſerted in the calyx alternately with the petals, having erect, didymous antheræ.

4. Pistillum conſiſts of a germen below the receptacle, a filiforme ſtyle longer than the ſtamina, and an obtuſe ſtigma.

5. Pericarpium is a roundiſh, coloured capſule, containing one cell.

6. Semen. The ſeed is ſingle, roundiſh, and large.

CHAP. CLXI.

GYPSOPHILA.

THERE is one ſhort-lived ſpecies of this genus, called Annual *Gypſophila*.

The plant deſcribed. The ſtalks are weak, dichotomous, and not more than ſix or eight inches high. The leaves are narrow, awl-ſhaped, plane, acute, and grow oppoſite to each other at the joints. The flowers come out from the ends of the branches in angular cups, are ſmall, and of a purpliſh colour; they appear in different plants the greateſt part of the ſummer, and afford plenty of ſeeds for a ſucceſſion.

Variety. There is a variety with red, and another with white flowers.

Culture. It is propagated by ſowing the ſeeds ſoon after they are ripe, or in the ſpring, in almoſt any ſoil or ſituation; and when the plants come up, they will require no trouble, except thinning them where they are too cloſe, and keeping them clean from weeds. After they have once flowered and ſhed their ſeeds, the plants will come up ſpontaneouſly, and maintain the ſucceſſion without the Gardener's care.

Titles. Muralis. This ſpecies is titled, *Gypſophila foliis linearibus planis, calycibus aphyllis, caule dichotomo, petalis crenatis*. In the *Flora Suecia* it is termed, *Saponaria calycibus pentaphyllis, corollis crenato-emarginatis, foliis ſubulatis planis*. In the *Flora Lappon.* it is, *Saponaria foliis linearibus*. Caſpar Bauhine calls it, *Caryophyllus minimus muralis*; and Mentzelius, *Lychnis parva paluſtris, foliis acutis lanceolatis, floſculis purpureis*. It grows naturally by way-ſides in Sweden, Germany, and Switzerland.

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CHAP. CLXII.

HEDYSARUM, FRENCH HONEYSUCKLE.

Species. OF this genus there are,

1. Common French Honeyſuckle.
2. Prickly-podded French Honeyſuckle.
3. Flexuoſe-podded French Honeyſuckle.
4. Dwarf French Honeyſuckle.
5. Small Cock's Head.
6. Trailing French Honeyſuckle.
7. Two-leaved Cock's Head of Madraſs.
8. Three-flowered Indian *Hedyſarum*.
9. Spotted Indian *Hedyſarum*.

Common French Honeyſuckle deſcribed. 1. Common French Honeyſuckle. The ſtalks are thick, ſmooth, hollow, divide into numerous branches, and grow about three feet high. The leaves are pinnated, each being compoſed of five or ſix pair of folioles terminated by an odd one; and they are placed alternately on the branches. The flowers come out in ſpikes from the ſetting-on of the leaves, growing on longiſh footſtalks; they are of a red colour, appear in June and July, and are ſucceeded by jointed, rough, compreſſed pods, containing ripe ſeeds in September.

Variety. There is a variety of this ſpecies with white flowers.

Deſcription of Prickly-podded, 2. Prickly-podded French Honeyſuckle. The ſtalks are thick, hollow, ſmooth, and diffuſe. The leaves are pinnated; the folioles are heart-ſhaped, and four or five pair are arranged along the mid-rib, which are terminated by an odd one. The flowers are ſmall, and of a whitiſh-purple colour; they are produced in ſpikes in July and Auguſt, and are ſucceeded by large, compreſſed, jointed, prickly, downy pods, containing ripe ſeeds in the autumn.

Flexuoſe-podded, 3. Flexuoſe-podded French Honeyſuckle. The ſtalks of this ſpecies are ſmooth, hollow, diffuſe, partly procumbent, and grow to about a foot and a half high. The leaves are pinnated, each being compoſed of about three pair of oval folioles, which are terminated by an odd one. The flowers are produced in ſpikes from the tops of the plants, are of a reddiſh-purple colour, appear in July, and are ſucceeded by jointed, prickly, flexuoſe pods, containing ripe ſeeds in the autumn.

and Dwarf French Honeyſuckle. 4. Dwarf French Honeyſuckle. The ſtalks are depreſſed, branching, and about half a foot long. The leaves are pinnated, and a ſmall branch and one leaf are uſually attendant on one another: Each leaf is compoſed of four or five pair of oblong folioles, which are a little hairy on their under-ſide, and terminated by an odd one. The flowers come out from the ſetting-on of the leaves in oval ſpikes, are ſmall, of a purple colour, appear in July, and are ſucceeded by jointed, rough pods, containing ripe ſeeds in the autumn.

Varieties.

There is a variety of this ſpecies with red, and another with white flowers.

Small Cock's Head of Madraſs deſcribed.

5. Small Cock's Head. The ſtalk is tender, divides into numerous branches, and grows to about ſix or eight inches high. The leaves are pinnated, each being compoſed of about four pair of oblong folioles, which are terminated by an odd one. The petals of the flowers are nearly equal, tho' ſmall, and the flowers are produced all over the plant in ſhort ſpikes; they make their appearance in July, and are ſucceeded by echinated pods, each containing one ſeed, which ripens in the autumn.

Trailing French Honeyſuckle deſcribed.

6. Trailing French Honeyſuckle. The ſtalks are tender, hairy, branching, about a foot long, and lie on the ground. The leaves are trifoliate, having three obcordated folioles, and grow on long footſtalks. The flowers are produced in ſmall cluſters from the joints, are of a purple colour, appear in July, and the ſeeds ripen in the autumn.

Two-leaved Cock's Head deſcribed.

7. Two-leaved Cock's Head of Madraſs. This ſpecies ſends forth two or three ſtalks from the root, which grow to about nine inches high. The lower leaves conſiſt of two oval folioles, growing together on footſtalks; but the upper leaves are ſharp-pointed, and ſit cloſe to the ſtalks. The flowers come out ſingly from the boſom of the leaves on the upper parts of the ſtalks, ſitting cloſe, without any footſtalks; they are ſmall, of a yellow colour, make their appearance in July, and the ſeeds ripen in the autumn.

Deſcription of Three-flowered and Spotted Indian Hedyſarum.

8. Three-flowered Indian *Hedyſarum*. The ſtalks are hairy, about a foot and a half long, and, unleſs ſupported, lie on the ground. The leaves are trifoliate, ſmooth, and nearly heart-ſhaped. The flowers come out from the ſides of the ſtalks on footſtalks, three of which uſually proceed from the ſame point, and each footſtalk ſupports one flower; they make their appearance in July, and are ſucceeded by flat, jointed pods, containing ripe ſeeds, in the autumn.

9. Spotted Indian *Hedyſarum*. The ſtalks are ſlender, and about a foot long. The leaves are oval, ſimple, obtuſe, ſpotted, and grow on long, ſlender footſtalks. The flowers come out by pairs from the ſides of the ſtalks, are ſmall, of a reddiſh-yellow colour, appear in July, and are ſucceeded by ripe ſeeds in the autumn.

Culture of the firſt ſpecies.

The firſt ſpecies ſhould be treated as a Biennial in our gardens, and the ſeeds ſhould be ſaved and ſown for a ſucceſſion accordingly. It is uſually raiſed by ſowing the ſeeds in April, and, when the plants are about two or three inches high, ſetting them in beds at a ſmall diſtance from each other, to be removed to their final deſtination in the autumn. But if the plants are never removed, they will grow to a much larger ſize, and produce larger and fairer ſpikes of flowers than ſuch as have been tranſplanted; and as the deſign of this ſpecies is to make a ſhow in large gardens, as well as to adorn rooms, ſuch methods ſhould be purſued in its culture as will cauſe it to be the moſt ornamental.

In April, therefore, let a piece of ground, long enough to contain the quantity you would chuſe to raiſe, be double-dug; for the roots are large, thick, and ſtrike deep into the ground Let the ſurface be made ſmooth and level; and if it be lengthways on the ſide of a ſlope, it will be a more advantageous ſituation to exhibit the flowers when in full blow. Having prepared the ground, ſow a few ſeeds in patches all over the ſpot, and let the patches be at a yard diſtance from each other. Place a ſtick at each patch for a direction; rake the parts ſmooth; and, if dry weather happens, give the mould about the ſticks every third evening a ſlight watering. This will help to bring up the plants; and when they are grown to about three inches high, all ſhould be drawn out, except the ſtrongeſt, from each patch; and you will then have your ground properly furniſhed with plants at a yard diſtance from each other. The drawn plants may be ſet in beds ſix inches aſunder, to be removed in the autumn to other places, if they are wanted; or they may be given to friends to anſwer their purpoſes in ſmaller gardens. All ſummer the ground between the plants muſt be kept clean from weeds, and alſo in the autumn; but not ſo near the plants as to diſturb the roots. In the ſpring the mould ſhould be ſtirred again with the ſpade in the like manner, and your plants will ſoon ſhoot up ſtrong for flowering. In ſhort, with this management, if the ground is good, they will grow to be four or five feet high, and their flowers will be infinite; whereas, after being tranſplanted, they rarely grow higher than two or three feet. As the ſtalks advance for flowering, a ſhort ſtake ſhould be thruſt by the ſide of each plant, to faſten it to, in order to prevent its being diſplaced by the wind, which will ſoon have great power on ſuch large, ſpreading plants. When the bloom is entirely over, the whole ground ſhould be dug up, to be occupied by any plants of a different nature; whilſt the ſpot for the French Honeyſuckle plantation, the ſpring following, ſhould be pitched on in a different place.

Culture of the other eight ſpecies.

The other eight ſpecies are all Annuals. The ſecond, third, fourth, and fifth, may be ſown in the ſpring, in beds of fine mould; and after they come up, they will require no trouble, except thinning them to proper diſtances, watering them in dry weather, and keeping them clean from weeds. The ſixth, ſeventh, eighth, and ninth ſpecies ſhould be raiſed on a hot-bed; and when the plants are fit to remove, they ſhould be taken up, on ſome moiſt day, with a ball of earth to each root, and ſet in the places where they are deſigned to remain; leaving, nevertheleſs, a few plants ſtanding in the hot-bed, which will be ſtronger, flower earlier, and be more certain of producing you good ſeeds than ſuch as have been removed.

Titles.

Coronarium.

1. The Common French Honeyſuckle is titled, *Hedyſarum foliis pinnatis, leguminibus articulatis aculeatis nudis rectis, caule diffuſo.* Caſpar Bauhine calls it, *Onobrychis, ſemine clypeato aſpero, major*; and Dodonæus, *Onobrychis altera.* It grows naturally in the Italian meadows.

Spinosissimum.

2. Prickly-podded French Honeyſuckle is, *Hedyſarum foliis pinnatis, leguminibus articulatis aculeatis tomentoſis, caule diffuſo.* Boerhaave calls it, *Hedyſarum Hiſpanicum ſupinum annuum anguſtifolium, floribus parvis ex albo purpuraſcentibus*; and Plukenet, *Onobrychis minor, foliolis cordatis, ſiliquis magnis aſperis compreſſis.* It is a native of Spain.

Flexuosum.

3. Flexuoſe-podded French Honeyſuckle is, *Hedyſarum foliis pinnatis, leguminibus articulatis aculeatis flexuoſis, caule diffuſo.* Moriſon calls it,

Onobrychis major annua, ſiliquis articulatis aſperis clypeatis, undulatim junctis, flore purpureo-rubente. It grows naturally in Aſia.

Humile. 4. Dwarf French Honeyſuckle is titled, *Hedyſarum foliis pinnatis, leguminibus articulatis aſperis, corollæ alis obſoletis, ſpicis hirſutis, caulibus depreſſis.* Ray calls it, *Hedyſarum clypeatum minus, flore purpureo*; Caſpar Bauhine, *Onobrychis, ſemine clypeato aſpero, minor*; and John Bauhine, *Polygalo Geſneri affine caput gallinaceum.* It grows naturally in Spain and ſome parts of France.

Caput Galli. 5. Small Cock's Head is, *Hedyſarum foliis pinnatis, leguminibus monoſpermis criſtatis aculeatis, petalis æqualibus, caule diffuſo.* Caſpar Bauhine calls it, *Onobrychis, fructu echinato, minor*; and Triumfetti, *Onobrychis, ſ. caput galli minus, fructu maximo, inſigniter echinato.* It grows naturally on the ſea-ſhores of France and other parts of Europe.

Repens. 6. Trailing French Honeyſuckle is, *Hedyſarum foliis ternatis obcordatis, caulibus procumbentibus, racemis lateralibus.* Gronovius calls it, *Hedyſarum caulibus procumbentibus, racemis lateralibus ſolitariis, petiolis pedunculo longioribus*; and Dillenius, *Trifolium procumbens, trifolii fragiferi folio.* It grows naturally in Virginia.

Diphyllum. 7. Two-leaved Cock's Head of Madraſs is, *Hedyſarum foliis binatis petiolatis, floralibus ſeſſilibus.* Brown calls it, *Hedyſarum herbaceum procumbens, foliis geminatis, ſpicis foliatis terminalibus*; Sloane, *Hedyſarum minus diphyllum*; Plukenet, *Onobrychis Maderaſpatana diphyllos, ſiliculis clypeatis hirſutis, minor*; Rheede, *Nelam mari*; and Burman, *Hedyſarum bifolium, foliolis ovatis, ſiliculis aſperis geminatis inarticulatis.* It grows naturally in both the Indies.

Triflorum. 8. Three-flowered Indian *Hedyſarum* is, *Hedyſarum foliis ternatis obcordatis, caulibus procumbentibus, pedunculis unifloris ternis.* Burman calls it, *Hedyſarum trifoliatum repens, acetoſellæ folio glabro, caule hirſuto*; alſo, *Hedyſarum trifoliatum repens, folio ovali glabro, caule hirſuto, ſiliquâ planâ articulatâ.* It is a native of India.

Maculatum. 9. Spotted Indian *Hedyſarum* is, *Hedyſarum foliis ſimplicibus ovatis obtuſis.* Dillenius calls it, *Hedyſarum humile, capparidis folio maculato.* It grows naturally in India.

CHAP. CLXIII.

HELIANTHUS, The SUN-FLOWER.

Intro-duction. OF this genus is that remarkable Annual called the Sun-flower, than which there is not a more ſtately, magnificent Annual in the world. It was unknown to the Greeks and Romans of old, and it is no very long time ſince it was introduced into our gardens. It came firſt from America; and there is no doubt but Europe was amazed, as well as delighted, at the firſt appearance of an Annual arriving at ſo large a ſize, and producing ſo remarkably large and majeſtic a flower, in the courſe of a few months, from the ſeeds.

This plant deſcribed. The ſtalk is upright, firm, rigid, and for the moſt part branching near the top. The leaves are proportionally large, heart-ſhaped, trinervate, indented, rough, and placed on long footſtalks. The flower terminates the ſtalk, drooping or bending, as it were, with its own weight. It is the largeſt of all the diſcous, radiated kinds. The rays are of a golden-yellow colour, large, pointed, and regularly diſpoſed; and the florets of the diſk are numerous, and crowded together to make the flower full and complete. It is ſaid to obey the motion of the ſun, and to turn with it. Hence the name *Flos Solis* was commonly uſed for this plant. The name *Helianthus* is now given it, which has the ſame meaning with the former, but only in a different language. I have carefully obſerved them, but never could perceive that either plant or flower had any ſuch tendency; and, therefore, the name *Helianthus*, or *Flos Solis*, more properly belongs to it on account of the great reſemblance its rays have in their diſpoſition to the radiant beams of the ſun.

Culture. This noble plant is of very eaſy culture; and if your ground be rich and good, nothing more need be done than to put a few ſeeds at proper diſtances into the mould, and to cover them down about half an inch deep; when ſuch plants will flower early enough to perfect their ſeeds in the autumn.

But the beſt way, and in order to have them forwarder, is to ſow the ſeeds on a gentle hotbed in March. Here let them grow until the firſt moiſt day in May happens; then take them out with as much earth as poſſible to each root, and ſet them in the places where they are to remain.

They will often grow to be ten, twelve, or even fourteen feet high in a ſeaſon; and the flowers will be ſometimes near a foot and a half in diameter.

Varieties. There is a variety of it of low ſtature, which, when in perfection, is not higher than a foot and a half; and there is another variety with ſulphur-coloured flowers.

Whoever is inclined to have theſe ſorts, muſt place the plants at a diſtance from each other to flower; and in all the ſorts the ſeeds of the moſt full doubles and leaſt branching kinds muſt be collected for a ſucceſſion.

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The birds are exceeding fond of the ſeeds; ſo that if you do not keep a ſtrict eye over them as they ripen, you will ſoon be deprived of the beſt of them. Where they can be guarded from the Sparrows, who are its chief devourers, a few heads will produce a large quantity of ſeeds; and when plenty of theſe plants are raiſed, the ſeeds may be turned to advantage for feeding of poultry, for which purpoſe they are ſaid to be excellent.

Titles. Annuus. This ſpecies is titled, *Helianthus foliis omnibus cordatis trinervatis, floribus cernuis.* Caſpar Bauhine calls it, *Helienum Indicum maximum*; Dodonæus, *Herba maxima*; Gerard, *Flos ſolis*; and Renealme, *Chryſis.* It grows naturally in Peru and Mexico.

CHAP. CLXIV.

HELIOPHILA.

THERE are two ſpecies of this genus, called,

Species.
1. Undivided-leaved *Heliophila.*
2. Coronopus-leaved *Heliophila.*

Undivided and Coronopus-leaved Heliophila deſcribed. 1. Undivided-leaved *Heliophila.* The ſtalk is herbaceous, thick, and tender. The leaves are ſpear-ſhaped, of a thickiſh ſubſtance, undivided on their edges, hairy, and acute. The flowers are produced from the wings of the leaves at the upper parts of the plant; they are of a fine blue colour, appear in Auguſt, and the ſeeds ripen in the autumn.

2. Coronopus-leaved *Heliophila.* The ſtalk is herbaceous, ſmooth, and tender. The leaves are pinnatifid, narrow, and ſomewhat reſemble thoſe of Buck's Horn Plantain. The flowers adorn the upper parts of the plant in moderate plenty; they are of an elegant blue colour, and very beautiful; they appear in July and Auguſt, and the ſeeds ripen in the autumn.

Method of propagation. Theſe plants are raiſed by ſowing the ſeeds on a hotbed in the ſpring, covered with a light ſandy earth. When they are fit to remove, they muſt be potted ſeparately, and plunged into a freſh hotbed, where they may remain for a month or longer; then they are to be turned out, with the mould at the roots, into ſome warm, dry, ſandy ſituation, where they will flower, and, if the ſeaſon proves favourable, perfect their ſeeds.

Titles. Integrifolia. 1. The firſt ſpecies is titled, *Heliophila foliis lanceolatis indiviſis.* In the *Amœn. Acad.* it is termed, *Cheiranthus foliis lanceolatis integerrimis ſubhirſutis acutis, ſiliquis teretibus toruloſis, caule herbaceo.* Herman calls it, *Leucojum Africanum, cæruleo flore, latifolium*; and Plukenet, *Naſturtium petræum Æthiopicum, ſiliquâ in plurimos loculos.* It grows naturally in the Cape of Good Hope.

Coronopifolia. 2. The ſecond ſpecies is titled, *Heliophila foliis linearibus pinnatifidis.* Herman calls it, *Leucojum Africanum cæruleo flore, anguſto coronopi folio, majus*; and Plukenet, *Leucojum Africanum, flore lini cærulei, molluginis folio.* It grows naturally at the Cape of Good Hope.

Claſs and order in the Linnæan ſyſtem. The characters. *Heliophila* is of the claſs and order *Tetradynamia Siliquoſa*; and the characters are,

1. Calyx is a perianthium compoſed of four oblong, concave, patent, deciduous, membranaceous, edged leaves, the two exterior ones being veſicular at the baſe.

2. Corolla is cruciforme, and compoſed of four roundiſh, plane, ſeſſile petals. The two nectariums on the receptacle are recurved towards the veſicula of the calyx.

3. Stamina are ſix erect awl-ſhaped filaments the length of the calyx, of which the two oppoſite ones are ſomewhat ſhorter than the others, having oblong erect antheræ.

4. Pistillum conſiſts of a cylindrical germen, a ſtyle ſhorter than the germen, and an obtuſe ſtigma.

5. Pericarpium is a taper, ſubtoruloſe, mucronated pod, formed of two valves, and containing two cells.

6. Semina. The ſeeds are many.

CHAP. CLXV.

HELIOTROPIUM, TURNSOLE.

OF this genus we find the following Annuals; viz.

Species.

1. Indian Heliotrope.
2. European Heliotrope.
3. Supine Heliotrope.
4. Heliotrope of Curaçao.
5. Oriental Heliotrope.

Deſcription of Indian Heliotrope.

1. Indian Heliotrope, frequently called Indian Turnſole, riſes with a hairy, briſtly, branching ſtalk to about two feet high. The leaves are heart-ſhaped, oval, acute, hairy, waved, rough, and placed without order on moderately long footſtalks. The flowers are produced from the upper parts of the plant in long, reflexed, ſimple ſpikes; their colour is blue or purple; they appear in July or Auguſt, and ripen their ſeeds in the autumn.

Variety.

There is a variety of this ſpecies with pale-blue flowers; and the plant, both with reſpect to the ſtalk, leaves, and ſpikes of flowers, is of much ſmaller growth.

European

2. European Heliotrope. This is a large Annual, growing to ſeven or eight feet high. The ſtalk is robuſt, and divides into a few branches. The leaves are oval, rough, downy, entire, and grow alternately on moderately long footſtalks. The flowers are white, and are produced from the ends of the branches in double reflexed ſpikes; they appear in June and July, and the ſeeds ripen in the autumn.

and Supine Heliotrope,

3. Supine Heliotrope. This is a ſmall weak plant. The leaves are oval, downy, plicated, and entire. The flowers are ſmall; they grow in ſingle ſpikes in July and Auguſt, and ripen their ſeeds in the autumn.

Heliotrope of Curaçao,

4. Heliotrope of Curaçao. This plant hath ſlender trailing branches about a foot long. The leaves are ſpear-ſhaped, narrow, ſmooth, and of a greyiſh colour. The flowers grow in double ſpikes from the ſides of the branches; they are ſmall, white, and of little appearance.

and Oriental Heliotrope deſcribed.

5. Oriental Heliotrope. This is a ſmall procumbent plant. The leaves are narrow, ſmooth, and grow alternately. The flowers come out ſingly between the leaves in the alternate way; but they are ſmall, and of little figure.

Culture.

The European Heliotrope is beſt propagated by ſowing the ſeeds in the autumn, ſoon after they are ripe. They will readily come up; and afterwards nothing need be done, except thinning them to proper diſtances, and keeping them clean from weeds. In the ſummer they will flower, and ſoon after perfect their ſeeds; which, if permitted to ſcatter, will come up and continue the ſucceſſion without further trouble.

The ſeeds of all the other ſorts ſhould be ſown on a hotbed early in the ſpring. After they come up, they muſt have as much air as poſſible, to prevent their turning yellow and weak; and when they are of ſize to be removed, each ſhould be ſet in a ſmall ſeparate pot filled with light, freſh, ſandy earth. The pots ſhould be immediately plunged into a ſecond hotbed, and the plants ſhould be watered and ſhaded until they have taken root. With this management they ſhould continue until the heat of the bed is abated, during which time they ſhould be hardened by degrees to the open air. When they are ſufficiently hardened, the heat of the bed abated, and all danger of their ſuffering from cold nights is paſt, they ſhould be turned out of the pots into the places where they are to flower, and perfect their ſeeds.

Both the varieties of the Indian Heliotrope are plants of great ſingularity and beauty; and if they are raiſed late in the ſpring, potted, and removed into the ſtove, they will flower, and have a pretty effect there in the winter ſeaſon.

Titles.

Indicum.

1. The Indian Heliotrope, or Turnſole, is titled, *Heliotropium foliis cordato-ovatis acutis ſcabriuſculis, ſpicis ſolitariis, fructibus bifidis.* In the *Hortus Cliffort.* it is termed, *Heliotropium foliis ovatis acutis, ſpicis ſolitariis.* Dodart calls it, *Heliotropium Americanum cæruleum*; and Herman, *Heliotropium Americanum cæruleum, foliis hormini anguſtioribus.* It grows naturally in Africa, Aſia, and the warmer parts of America.

Europæum.

2. European Heliotrope is, *Heliotropium foliis ovatis integerrimis tomentoſis rugoſis, ſpicis conjugatis.* In the *Hortus Cliffort.* it is termed, *Heliotropium foliis ovatis integerrimis, ſpicis conjunctis.* Caſpar Bauhine calls it, *Heliotropium majus Dioſcoridis.* It grows naturally in the ſouthern countries of Europe.

Supinum.

3. Supine Heliotrope is, *Heliotropium foliis ovatis integerrimis tomentoſis plicatis, ſpicis ſolitariis.* Caſpar Bauhine calls it, *Heliotropium minus ſupinum*; and Cluſius, *Heliotropium ſupinum.* It grows naturally in France.

Curassavicum.

4. Heliotrope of Curaçao is titled, *Heliotropium foliis lanceolato-linearibus glabris aveniis, ſpicis conjugatis.* Plukenet calls it, *Heliotropium Indicum procumbens glaucophyllon, floribus albis*; Sloane, *Heliotropium maritimum minus, folio glauco flore albo*; Moriſon, *Heliotropium Curaſſavicum, foliis lini umbilicati*; and Herman, *Heliotropium Americanum procumbens, facie lini umbilicati.* It is a native of the warmer parts of America.

Orientale.

5. Oriental Heliotrope is, *Heliotropium foliis linearibus glabris aveniis, floribus ſparſis lateralibus.* It grows naturally in Aſia.

Claſs and order in the Linnæan ſyſtem.

Heliotropium is of the claſs and order *Pentandria Monogynia*; and the characters are,

The characters.

1. CALYX is a monophyllous, tubulous, permanent perianthium, indented at the top into five parts.

2. COROLLA is one hypocrateriforme petal. The tube is the length of the calyx. The limb is divided into five obtuſe, irregular, unequal ſegments.

3. Stamina are five very ſhort filaments in the mouth of the flower, with ſmall antheræ.

4. Pistillum conſiſts of four germens, a filiforme ſtyle the length of the ſtamina, and an emarginated ſtigma.

5. Pericarpium. There is none. The ſeeds are contained in the calyx.

6. Semina. The ſeeds are oval, acuminated, and four in number.

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CHAP. CLXVI.

HERACLEUM, COW PARSNEP.

Species. OF this genus are,

1. Common Cow Parſnep.
2. Siberian Cow Parſnep.
3. Appennine Cow Parſnep.
4. Auſtrian Cow Parſnep.
5. Mountain Cow Parſnep.

Deſcription of Common Cow Parſnep. 1. Common Cow Parſnep. The root is large, white, and ſtrikes deep into the ground. The ſtalks are thick, ſtriated, branching, and five feet high. The leaves are large, hairy, of a greyiſh-green colour, and compoſed of a multitude of folioles, which are cut almoſt to the midrib, and are of different ſizes. The flowers are produced in umbels from the tops of the ſtalks; they are broad, and of a white colour; they appear in June and July, and the ſeeds ripen in Auguſt.

Varieties. There is a variety of this ſpecies with very narrow leaves, and another with purple flowers.

Siberian, 2. Siberian Cow Parſnep. The root is larger than a carrot, and ſtrikes deeper into the ground. The ſtalks are very thick, robuſt, round, ſtriated, reddiſh near the bottom, and five or ſix feet high. The leaves are large, and pinnated. The folioles are placed in a quinate order, are of a ſtrong green colour, a little hairy, and cut or variouſly jagged almoſt to the midrib. The flowers are produced in umbels from the tops of the ſtalks; they are of a yellow colour; they appear in July; and the ſeeds ripen in Auguſt or September.

Appennine, 3. Appennine Cow Parſnep. The root is very large, and ſtrikes deep into the ground. The ſtalks are thick, round, ſtriated, and four or five feet high. The leaves are large, pinnated, and the folioles are quinate, ſerrated, hairy, and of a ſtrong green colour, but downy underneath. The flowers are radiated, white, and terminate the ſtalk in broad flat umbels; they appear in July, and the ſeeds ripen in September.

Auſtrian, 4. Auſtrian Cow Parſnep. The ſtalks are round, ſtriated, upright, and about a foot and a half high. The leaves are pinnated, being compoſed of about two pair of folioles, terminated by an odd one. The folioles are of an oval oblong figure, ſit cloſe to the midrib, are ſerrated, and very rough on both ſides. The flowers are radiated, and terminate the ſtalks in umbels; they are of a white colour, appear in June and July, and the ſeeds ripen in September.

and Mountain Cow Parſnep deſcribed. 5. Mountain Cow Parſnep. The ſtalk is naked, and a foot and a half or two feet high. The radical leaves are broad, ſimple, lobed, indented, ſmooth, and of a ſtrong green colour. The flowers come out from the tops of the ſtalks in umbels; they are radiated, and of a white colour; they appear in June and July, and the ſeeds ripen in Auguſt.

Culture. The firſt ſpecies is the Common Cow Parſnep, which grows almoſt every-where in rich moiſt places, and is never cultivated; the others are raiſed by ſowing the ſeeds in the ſpring, in the places where they are to remain. The ground ſhould be double-dug for their reception; and after they come up they will require no trouble, except thinning them to proper diſtances, and keeping them clean from weeds. The next ſummer they will flower (for they are all Biennials) and perfect their ſeeds; which, if permitted to ſcatter, will produce plants enough for a ſucceſſion without further trouble.

Titles. 1. The firſt ſpecies is titled, *Heracleum foliolis pinnatifidis.* Caſpar Bauhine calls it, *Sphondylium vulgare hirſutum*; alſo, *Sphondylium hirſutum, foliis anguſtioribus*; and John Bauhine, *Sphondylium quibuſdam vel branca urſina Germanica.* It grows naturally in England, and moſt countries of Europe. Sphondylium.

2. The ſecond ſpecies is, *Heracleum foliis pinnatis: foliolis quinis: intermediis ſeſſilibus, corollulis uniformibus.* Gmelin calls it, *Paſtinaca foliis ſimpliciter pinnatis: foliolis pinnatifidis.* It grows naturally in Siberia. Sibiricum.

3. The third ſpecies is, *Heracleum foliis pinnatis; foliolis quinis: intermediis ſeſſilibus, floribus radiatis.* In the *Hortus Cliffort.* it is termed, *Heracleum foliolis palmatis ſerratis.* Gmelin calls it, *Heracleum foliis pinnatifidis*; and Caſpar Bauhine, *Panax ſphondylii folio ſ. Heracleum.* It grows naturally in Siberia, and the Appennine mountains. Panaces.

4. The fourth ſpecies is, *Heracleum foliis pinnatis utrinque ſcabris, floribus radiatis.* Caſpar Bauhine calls it, *Sphondylium Alpinum parvum.* It grows naturally on the Auſtrian mountains. Austriacum.

5. The fifth ſpecies is, *Heracleum foliis ſimplicibus, floribus radiatis.* Caſpar Bauhine calls it, *Sphondylium Alpinum glabrum*; and Barrelier, *Sphondylium montanum glabrum, albo flore.* It grows naturally on the Helvetian mountains. Alpinum.

Heracleum

Claſs and order in the Linnæan ſyſtem.

Heracleum is of the claſs and order *Pentandria Digynia*; and the characters are,

The characters.

1. Calyx. The general umbel is large and multiple. The partial umbel is plane. The general involucrum is compoſed of many caduous leaves. The partial is dimidiated outwardly, and conſiſts of from three to ſeven narrow ſpear-ſhaped leaves, the exterior ones being the longeſt. The perianthium is obſolete.

2. Corolla. The general flower is difform and radiated. The florets in the diſk are equal, and each conſiſts of five inflexed, uncinated, emarginated petals. The florets in the radius are unequal, and each has five oblong uncinated petals, the exterior ones being the largeſt, and more bifid.

3. Stamina are five filaments longer than the corolla, having ſmall antheræ.

4. Pistillum conſiſts of a ſuboval germen ſituated below the calyx, and two ſhort approximated ſtyles, with ſimple ſtigmas.

5. Pericarpium. There is none. The fruit is elliptical, compreſſed, emarginated, and ſtriated on both ſides in the middle.

6. Semina. The ſeeds are two, oval, and compreſſed.

CHAP. CLXVII.

HERNIARIA, RUPTURE-WORT.

Of this genus there are two Annuals, called,

Species.

1. Smooth Rupture-wort.
2. Rough Rupture-wort.

Deſcription of the Smooth

1. Smooth Rupture-wort. The ſtalks are very ſlender, knotty, often reddiſh, very tough, about five or ſix inches long, and lie on the ground. The leaves are ſmall, oval, pointed, and ſmooth. The flowers come out in cluſters from the ſides of the ſtalks their whole length; they are ſmall, and of a yellowiſh colour; they appear in May, and continue the ſucceſſion until the end of Auguſt.

and Rough Rupture-wort.

2. Rough Rupture-wort. The ſtalks are ſlender, tough, knotty, and lie on the ground. The leaves are ſmall, oval, pointed, rough, and hairy. The flowers come out from the ſides of the ſtalks at every joint; they are ſmall, and of a yellowiſh colour; they appear in May, and continue in ſucceſſion the greateſt part of the ſummer.

Uſes of it.

Theſe plants are ſaid to be of great uſe in healing of ruptures, or burſten bellies.

Culture.

They are both natives of England, and produce ſeeds enough. Sow the ſeeds, ſoon after they are ripe, in any ſoil or ſituation, and they will come up; and after they have flowered and ſhed their ſeeds, there will be ſoon plenty of plants.

Titles.

1. Smooth Rupture-wort is titled, *Herniaria glabra herbacea*. In the *Hortus Cliffort.* it is termed, *Herniaria calycibus bracteâ nudis*. Caſpar Bauhine calls it, *Polyganum minus, ſ. millegrana major*; Parkinſon, *Millegrana major, ſeu Herniaria vulgaris*; and Gerard, *Herniaria*. It grows naturally in ſandy, dry, and gravelly places in England, and moſt countries of Europe.

Glabra.

2. Rough Rupture-wort is, *Herniaria hirſuta herbacea*. It grows naturally in dry gravelly places in England, Italy, and Spain.

Hirsuta.

CHAP. CLXVIII.

HESPERIS, DAME's VIOLET, or ROCKET.

ALL the ſpecies of the *Heſperis* are of ſuch ſhort duration, that they might with no impropriety be introduced in this place. The Rocket is a well-known plant. It is for the moſt part Biennial only with us; and nothing but a deſire of continuing ſo fine a plant longer by art, has occaſioned its being ranked among the Perennial flowers. The ſtill ſhorter-lived ſpecies of the *Heſperis* are,

Species.

1. The African Rocket.
2. The Sicilian Rocket.
3. The French Rocket.

Deſcription of African Rocket.

1. African Rocket. This plant ſeldom riſes above ten inches high. It has a very branching diffuſe ſtalk, and the leaves are placed on footſtalks; they are ſpear-ſhaped, acutely indented, and very rough. The flowers are produced from the ends of the branches in looſe panicles; they are very ſmall, and of a purpliſh colour; they will be in blow in June and July; and they ripen their ſeeds in September.

Varieties.

There is a variety of this ſpecies with red, and another with yellow flowers.

Sicilian

2. Sicilian Rocket. This is a ſtill lower-growing plant than the former; the uſual height it will aſpire to being about ſix inches. The leaves, which are about two inches long, are ſo deeply indented on both ſides, as to cauſe the appearance of a pinnatifid leaf. The ſtalk is very ſlender, and divides near the top into a few ſmaller, all of which are terminated by the flowers: Theſe are very ſmall, and of a white colour. The plant flowers in the ſummer, and ripens the ſeeds in the autumn.

and French Rocket deſcribed.

3. French Rocket. This will grow to about nine inches high. The ſtalk is upright, branching, and garniſhed with leaves that cloſely embrace it with their baſe; they are cordated, their edges ſerrated, and they are very hairy. A few of the like kind of leaves alſo will be produced from the root lying upon the ground. The flowers are produced from the ends of the branches in kind of panicles; they are of a purple or violet colour, will be in blow in the ſpring, and the ſeeds ripen ſoon after.

Culture.

The beſt time for ſowing all theſe ſorts is the autumn. The young plants will ſoon come up, and they will ſtand the winter very well. They will flower early in the ſummer; and if you chuſe a ſucceſſion, ſave ſome of the ſeed until the ſpring, and ſow it in March: Theſe plants will come up and ſhew their flowers as the others begin to decline; and thus you may have the blow continued. They are plants, however, of no very great beauty, and deſerve no extraordinary care. Indeed they do not require any; for they will grow, ſow the ſeeds how you will, almoſt any where, and after that they will ſcatter their ſeeds, and come up ſpontaneouſly; ſo that the only trouble neceſſary will be to thin them where they come up too thick.

Titles.

1. The African Rocket is titled, *Heſperis caule ramoſiſſimo diffuſo, foliis petiolatis lanceolatis acutè dentatis ſcabris, ſiliquis ſeſſilibus.* Niſſol calls it, *Heſperis Africana, hieracii folio hirſuto, flore minimo purpuraſcente*; and Boccone, *Leucojum Gallicum, folio halimi.* It grows naturally in Africa.

Africana.

2. The Sicilian Rocket is, *Heſperis foliis dentato-pinnatifidis, caule lævi.* Van Royen calls it, *Heſperis foliis multifidis*; and Dillenius, *Heſperis flore albo minimo, ſiliquâ longâ, folio profundè dentato.* It grows naturally in Sicily.

Dentata.

3. French Rocket is, *Heſperis caule erecto ramoſo, foliis cordatis amplexicaulibus ſerratis villoſis.* Tournefort calls it, *Turritis annua verna, flore purpuraſcente*; Barrelier, *Leucojum minus rotundifolium, flore purpureo*; and Moriſon, *Leucojum maritimum latifolium.* It grows naturally on the French coaſts.

Verna.

CHAP. CLXIX.

HIBISCUS, SYRIAN MALLOW.

THIS extenſive genus has children of different complexions and properies. Some muſt be nurſed with the delicate tenderneſs of the ſtove; whilſt others again live abroad for years in a well-ſheltered place. Of a third rank are thoſe whoſe lives are of a ſhort duration; a year or two at moſt, in their own countries, putting a period to their exiſtence; therefore they are of courſe in this place to be treated as Annuals. Theſe are,

Species.

1. Common Bladder *Ketmia*, or Venice Mallow.
2. African Bladder *Ketmia*.
3. Musk *Hibiſcus*, or Abel Moſch.
4. Vine-leaved Indian *Ketmia*.
5. Fig-leaved *Ketmia* of Ceylon.
6. Cotton-leaved Indian *Ketmia*.
7. Prickly Indian *Ketmia*.
8. Fig-leaved *Ketmia* of the Braſils.

Theſe are the principal ſpecies, and among them are many varieties.

Deſcription of Common and African Bladder Ketmia.

1. Common Bladder *Ketmia*. This hath a ſmall, herbaceous, branching ſtalk; it is poſſeſſed of many ſhort ſoft ſpines, and will riſe to about a foot and a half in height. The leaves are tripartite, or cut into three lobes, whoſe edges are much jagged. The flowers are produced from the joints of the ſtalks on long footſtalks; each has a double calyx, and the inner one is ſmaller, like an inflated bladder, which occaſions its being ſo diſtinguiſhed.

2. African Bladder *Ketmia* is a variety only of the former ſpecies, though it retains its difference from ſeeds. The difference is this; it is a more upright-growing plant, the ſtalks are purple, and the lobes of the leaves are only ſlightly indented. The flowers are uſually larger, and of a better colour; which makes the ſeeds of this ſort to be preferred to the other, though there are more varieties. The leaves of one ſort is compoſed of very long narrow lobes, whoſe edges are almoſt entire; another has very broad tripartite leaves, with crenated edges. The flowers of all theſe ſorts are of ſhort duration: In hot weather they do but juſt open, and then wither away: Hence they have been called *Flos Horæ*, or Flower of an Hour. But this defect, as in the *Convolvulus* and all ſuch flowers, is abundantly compenſated by the ſucceſſion of them, which will be continued by the freſh appearance of others for a conſiderable time.

Musk Hibiſcus,

3. Musk *Hibiſcus*. This is uſually known among Gardeners by the name of *Abel Moſch*, and riſes with a round, upright, branching ſtalk, to about a yard in height. The leaves are peltated, and very large. Thoſe on the lower parts of the plant are cut into ſeven angles, but thoſe that grow higher into fewer: They are very rough, and their edges are ſerrated; their colour is a pleaſant green, with purple veins, and they are placed on long footſtalks on the branches. The flowers are large, and numerous; their colour is a pale-yellow, but ſtained in the center with a dark-red; they are produced from the wings of the ſtalks on long erect footſtalks; each is compoſed of five large petals, and each has a double calyx. They are ſucceeded by inflated ſeed-veſſels, containing numerous, ſweet-ſcented ſeeds, of a musky fragrance.

This plant is cultivated by the French in great quantities in their American iſlands, and becomes a conſiderable branch of their trade. If it be ſet in the ſtove, it will continue for two years.

Vine-leaved Indian,

4. Vine-leaved Indian *Ketmia*. This is a tall-growing Annual. It ariſes with an upright ſtalk to the height of about eight feet. The leaves are of different figures; the lower ones being almoſt oval, with ſerrated edges, whilſt thoſe which grow higher are divided into five ſegments: The edges of theſe are acutely ſerrated, and the leaves grow on long footſtalks. The flowers are very large and beautiful; their colour is a pale-yellow, and the bottom of each flower is ſtained with purple; they are produced from the wings of the ſtalks in a pendulous manner, and are ſucceeded by prickly capſules, containing the ſeeds.

Fig-leaved,

5. Fig-leaved *Ketmia* of Ceylon. This ſeldom grows to above a yard in height. The ſtalk is tender, prickly, and divides into ſmall branches near the top. The leaves are palmated, and divided into five ſpear-ſhaped lobes, which end in acute points, and their edges are crenated; they are very hairy, and are produced ſtanding on long footſtalks. The flowers are white, and their bottoms purple; they are much ſmaller than thoſe of the preceding ſorts; and tho' they have leſs ſhow, have charms enough to recommend them to our notice: They are produced from the wings of the leaves, and are ſucceeded by ſhort obtuſe capſules, containing the ſeeds.

Cotton-leaved Indian,

6. Cotton-leaved Indian *Ketmia*. This plant will grow about a yard high. The ſtalk is tender, ſmooth, and ſends out many ſide-branches. The leaves are of different figures; the lower ones being oval and undivided, whilſt the upper ones are cut into three diſtinct lobes. The flowers ſit cloſe to the ſides of the branches, and are of a very bad white colour, with purple bottoms; they have little beauty, and are ſucceeded by obtuſe capſules, containing the ſeeds.

The pods of this plant have an agreeable acid taſte, ſomewhat like that of Sorrel; on which account they are eat and much reliſhed by the inhabitants of the Weſt Indies, where the plants naturally grow.

and Prickly Indian Ketmia deſcribed.

7. Prickly Indian *Ketmia*. This plant riſes with a prickly herbaceous ſtalk to the height of about a yard; it divides into branches, and the leaves are of different figures. The upper leaves are divided into five oval, ſpear-ſhaped lobes; thoſe about the middle of the plant are trilobate; and the lower ones are undivided, and of an oval figure: All of them are very hairy, their

edges are ſerrated, and they grow on long footſtalks. The flowers are ſmall, and ſit cloſe to the ſides of the branches; they are of a pale-yellow colour, with deep-purple bottoms, and their pods have an acid taſte.

Fig-leaved Ketmia deſcribed.

8. Fig-leaved *Ketmia* of the Braſils. This plant alſo will riſe to about a yard in height. It has an herbaceous branching ſtalk, and the leaves are pedated, each being ſo divided into five parts as to form that appearance. The flowers are very ſmall, of a whitiſh colour, or rather a pale-yellow, and their bottoms are purple; they are produced from the wings of the ſtalks, and fade away almoſt as ſoon as they open. They are ſucceeded by furrowed pyramidical capſules, though theſe will be of different ſizes and ſhapes, according to the varieties of this ſpecies.

Its uſes.

This plant is eſculent, and chiefly uſed when green by the inhabitants of the Weſt Indies to enrich their ſoups, and the like.

Method of propagation.

The firſt two ſorts, with all their varieties, (for there are ſeveral, which chiefly retain their difference from ſeeds) are propagated by ſowing the ſeeds in a border of good mould. The ſpring is the uſual time for this buſineſs; but if they are ſown in the autumn, they will come up earlier in the ſpring, and flower ſooner. At both theſe times, therefore, let the ſeeds be ſown; nay, let there be even a third ſowing later in the ſpring, and a blow of theſe flowers will be exhibited in one or other of them for a long time.

All the other ſorts ſhould be raiſed on a hot-bed, which ſhould be ready againſt the firſt week in March, and the ſeeds thinly ſown thereon. By the time the plants are about two or three inches high, another hot-bed ſhould be prepared, when they ſhould be taken out of the firſt with great care: The ſcooping trowel muſt be uſed to take up each plant, with a ball of earth to the root, and they ſhould be then planted in this freſh hot-bed. Very moderate but frequent waterings muſt be given them; and all along they muſt have as much free air as poſſible. From this hot-bed they may be tranſplanted, in a moiſt day, into the borders they are deſigned for. Some allow them a third hot-bed; but when this is done, the plants muſt not remain too long in the ſecond; for if they are grown large, they will be hindered more by removal than the third hot-bed will forward them. But if this is done with care, and a ball of earth be preſerved to each root, they will thereby be brought forwarder, and made to ſhew their flowers in greater perfection.

Titles.

1, 2. One common title belongs to the firſt two ſorts; viz. *Hibiſcus foliis tripartitis inciſis, calycibus inflatis.* There are ſeveral varieties of it which retain their difference from ſeeds, and have been reckoned as real ſpecies by old Botaniſts; but the improvements of the Science have now taught us better. Tournefort calls the firſt ſort, *Alcea veſicaria vulgaris*; and as a diſtinct ſpecies he titles the ſecond, *Ketmia veſicaria Africana.* To this Boerhaave adds, as a ſpecific diſtinction for another, *foliis profundius inciſis vix crenatis.* Theſe diſtinctions are now diſregarded, and the above is the real title of the ſpecies, which is found growing naturally in all its varieties in Africa, and ſome parts of Italy. Trionum a. b.

3. Musk *Hibiſcus*, or Abel Moſch, is, *Hibiſcus foliis ſubpeltato-cordatis ſeptemangularibus ſerratis hiſpidis.* Tournefort calls it, *Ketmia Americana hirſuta, flore flavo, & ſemine moſchato.* It is a native of the Weſt Indies. Abelmoschus.

4. Vine-leaved Indian *Ketmia* is, *Hibiſcus foliis quinquangularibus acutis ſerratis, caule inermi, floribus pendulis.* Herman calls it, *Althæa Indica, vitis folio, flore amplo flavo-pendente.* It grows common in India. Vitifolius.

5. Fig-leaved *Ketmia* of Ceylon is, *Hibiſcus foliis quinquefido-palmatis, caule aculeato, floribus pedunculatis.* Dillenius calls it, *Ketmia Zeylanica, fici folio, perianthio oblongo integro.* It is a native of Ceylon. Ficulneus.

6. Cotton-leaved Indian *Ketmia* is, *Hibiſcus foliis ſerratis; inferioribus ovatis indiviſis; ſuperioribus tripartitis, caule inermi, floribus ſeſſilibus.* Ray calls it, *Althæa Indica goſſypii folio, acetoſæ ſapore.* It grows naturally in India. Sabdariffa.

7. Prickly Indian *Ketmia* is, *Hibiſcus foliis ſerratis; ſuperioribus palmatis quinquepartitis ſubtus uniglanduloſis, caule aculeato, floribus ſeſſilibus.* It is a native of India. Cannabinus.

8. Fig-leaved *Ketmia* of the Braſils is, *Hibiſcus foliis quinquepartito-pedatis, calycibus interioribus latere rumpentibus.* Commeline and Ray join in calling it, *Alcea Americana annua, flore albo (flavo potius) maximo fructu pyramidali ſulcato.* It grows naturally in the Weſt Indies. Esculentus.

CHAP. CLXX.

HIERACIUM, HAWKWEED.

Species.

IN ſome gardens are found,
1. Dandelion-leaved Hawkweed.
2. Succory-leaved Hawkweed.

Deſcription of Dandelion

1. Dandelion-leaved Hawkweed. The ſtalk is ſmooth, erect, ſtriated, and about a foot high. The leaves are ſpear-ſhaped, clammy, and glutinous to the touch; the lower ones are runcinated, indented, and toothed at the edges like thoſe of Dandelion, but the upper ones are entire. The flowers are produced from the ends of the ſtalks in umbels; they are ſmall, and of a paliſh-yellow colour; they appear in June and July, and the ſeeds ripen in Auguſt.

and Succory-leaved Hawkweed.

2. Succory-leaved Hawkweed. The ſtalks are ſmooth, branching near the top, and about a foot and a half high. The leaves are broad, ſmooth, indented, and embrace the ſtalks with their baſe. The flowers are produced in panicles from the tops of the ſtalks; they are of a yellow colour, and have black, hairy, hiſpid cups; they appear in June and July, and the ſeeds ripen ſoon after.

Culture.

The firſt ſort is an Annual, and the ſeeds ſhould be ſown in the autumn, to cauſe it to flower early the ſummer following.

The ſecond ſort is a Biennial; and if the ſeeds are ſown in April, they will be good plants by the autumn, and flower ſtrong the ſummer following.

After they come up, they will require no trouble, except thinning them to proper diſtances, keeping them clean from weeds, and watering them in dry weather. They both love moiſt ſhady places, though they are extremely hardy, and will grow any where.

Titles.

1. The firſt ſpecies is titled, *Hieracium foliis lanceolatis runcinatis ſcabriuſculis, floribus umbellatis.* Caſpar Bauhine calls it, *Hieracium dentis leonis folio, floribus parvis.* It is a native of Narbonne.

Glutinosum.

2. The ſecond ſpecies is, *Hieracium caule paniculato, foliis amplexicaulibus dentatis glabris, calycibus hiſpidis.* Caſpar Bauhine calls it, *Hieracium montanum latifolium glabrum minus*; Haller, *Hieracium foliis amplexicaulibus minutè dentatis glabris*; and Ray, *Hieracium montanum cichorei folio.* It grows naturally in moiſt places in England, and moſt of the northern countries of Europe.

Paludosum.

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CHAP. CLXXI.

HIPPOCREPIS, HORSE-SHOE VETCH.

Species.

OF this genus there are two Annuals, called,
1. Single-podded Horſe-ſhoe Vetch.
2. Many-podded Horſe-ſhoe Vetch.

Deſcription of the Single

1. Single-podded Horſe-ſhoe Vetch. The ſtalks are ſlender, weak, branching, about a foot long, and lie on the ground. The leaves are pinnated, each being compoſed of four or five pair of ſmall obtuſe folioles, terminated by an odd one. The flowers are produced ſingly from the wings of the leaves; they are ſmall, ſit cloſe, and are of a yellow colour; they appear in June and July, and are ſucceeded by ſingle, long, crooked, jointed, horſe-ſhoe-ſhaped pods, containing ripe in September.

and Many-podded Horſe-ſhoe Vetch

2. Many-podded Horſe-ſhoe Vetch. The ſtalks are weak, branching, about a foot long, and lie on the ground. The leaves are pinnated, and compoſed of about four or five pair of ſmall obtuſe folioles, which are terminated by an odd one. The flowers come out in cluſters from the wings of the leaves on longiſh footſtalks; they are ſmall, appear in June and July, and are ſucceeded by cluſtered jointed pods, containing the ſeeds.

Method of raiſing theſe ſpecies.

Theſe plants are raiſed by ſowing the ſeeds in the places where they are to remain, in the ſpring or autumn, ſoon after they are ripe.

After they come up, they will require no trouble, except thinning them to proper diſtances, and keeping them clean from weeds, unleſs you chuſe to faſten them to ſticks, to keep them in an upright poſition. They are plants of no very great beauty; but the greateſt ſingularity they afford, is the figure of horſe-ſhoes at the joints of the pods.

Titles.

Unisiliquosa.

1. The firſt ſpecies is titled, *Hippocrepis leguminibus ſeſſilibus ſolitariis.* Caſpar Bauhine calls it, *Ferrum equinum ſiliquâ ſingulari*; and Columna, *Ferrum equinum vulgare.* It grows naturally in Italy.

Multisiliquosa.

2. The ſecond ſpecies is, *Hippocrepis leguminibus pedunculatis confertis*; *margine altero lobatis.* Caſpar Bauhine calls it, *Ferrum equinum ſiliquâ multiplici*; and Columna, *Ferrum equinum alterum polyceraton.* It grows naturally in France, Italy, and Spain.

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C H A P. CLXXII.

HOLCUS, INDIAN MILLET.

OF this genus there are two Annuals, which have a ſtriking appearance in the flower-garden, and are deſerving therefore of cultivation for ornament, called,

Species.

1. Round-ſeeded Indian Millet, or *Sorghum.*
2. Yellow-ſeeded Indian Millet.

The plants deſcribed.

Both theſe ſorts riſe with large, erect, ſtrong ſtalks, like reeds, to the height of ſix or ſeven feet. The leaves are near a yard long, broad, have a deep furrow down the middle, and embrace the ſtalk with their baſe. The flowers grow in large panicles from the tops of the ſtalks: The firſt ſort has hairy glumes, and ariſtated ſeeds; the glumes of the ſecond ſort are ſmooth, and their ſeeds beardleſs.

Theſe flowers have little beauty: It is the large reed-like appearance theſe plants aſſume, which conſtitutes their greateſt beauty. They have a ſingular effect in the flower-garden, and cauſe an agreeable contraſt in ſuch places with the different productions that may be expected to be found there.

Uſe of the ſeeds.

The ſeeds of this ſpecies are admirable for feeding of poultry; they are raiſed in India for that purpoſe, and are ſent for the like intent to moſt parts of Europe.

Culture.

Theſe plants ſhould be brought forward by a hotbed in the ſpring, or they rarely ripen their ſeeds in England. Sow the ſeeds therefore the end of March, in ſmall pots, and plunge them up to the rims in the mould in a temperate hotbed. When the plants come up, let them be all drawn out of each pot, except one, leaving the ſtrongeſt. They ſhould have as much air as the weather will permit, and frequent waterings. Harden them by degrees to bear the open air by the middle of May, and then on a moiſt day let them be turned out of the pots, with the mould at the roots, into the places where they are deſigned to remain: They will then flower early in July, and the ſeeds ripen in September.

Theſe plants ſhould be ſet in clumps, conſiſting, in large gardens, of ſeveral dozens together, at about two feet diſtance from each other, and their appearance will be more ſtriking and grand.

They are alſo raiſed by ſowing the ſeeds in the open ground in April. When they come up, they ſhould be thinned to about two feet diſtance from each other, and kept clean from weeds. They will ſoon aſſume a bold and ſtately look; but ſuch plants rarely flower before Auguſt, and the ſeeds ſeldom ripen in our gardens.

Titles.

Sorghum.

1. The firſt ſpecies is titled, *Holcus glumis villoſis, ſeminibus ariſtatis.* In the *Hortus Cliffort.* it is termed, *Holcus glumis glabris.* Caſpar Bauhine calls it, *Milium arundinaceum, ſubrotundo ſemine, ſorgho nominatum*; and John Bauhine, *Sorghi.* It grows naturally in India.

Saccharatus.

2. The ſecond ſpecies is, *Holcus glumis glabris, ſeminibus muticis.* Herman calls it, *Milium Indicum, arundinaceo caule, granis flaveſcentibus*; Breynius, *Milium Indicum ſacchariferum altiſſimum, ſemine ferrugineo*; and Caſpar Bauhine, *Frumentum Indicum quod milium Indicum vocant.* It grows naturally in India.

C H A P.

CHAP. CLXXIII.

HORDEUM, BARLEY.

THE Annuals of this genus are,

1. Common Spring Barley.

Species. 2. Winter Barley, or Six-rowed Barley.

3. Diſtichous, or Long-eared Barley.

4. Sprat Barley.

5. Common Wall Barley-graſs, or Way-bent.

6. Tall Barley-graſs.

The plants deſcribed. The firſt four ſorts are the kinds cultivated by the farmers in moſt parts of England; the others grow common on mud-walls, by way-ſides, &c. and are not cultivated. The firſt is the Common Spring Barley; the ſecond is called Winter Barley, as being of a more hardy nature, and conſiſts of ſix rows of grains; the third is the Common Long-eared Barley; and the fourth is diſtinguiſhed by the name of Sprat Barley, or Battledore Barley. They admit of many varieties, all of which are well known to farmers; and their culture is ſo univerſally known and experienced, as to make it needleſs to ſay any thing upon that ſubject.

Titles. Vulgare. 1. Common Spring Barley is titled, *Hordeum floſculis omnibus hermaphroditis ariſtatis*; *ordinibus duobus erectioribus*. In the *Hortus Upſal.* it is termed, *Hordeum floſculis omnibus hermaphroditis, ſeminibus corticatis*; alſo, *Hordeum floſculis omnibus hermaphroditis, ſeminibus decorticatis*. Van Royen calls it, *Hordeum floſculis omnibus hermaphroditis*; and Caſpar Bauhine, *Hordeum polyſtichon vernum*. It is not certain in what part of the world this Barley grows naturally.

Hexas=tichon. 2. Winter, or ſix-rowed Barley is, *Hordeum floſculis omnibus hermaphroditis ariſtatis, ſeminibus ſexfariam æqualiter poſitis*. The place of its natural growth is not known.

Distichon. 3. Diſtichous, or Long-eared Barley is, *Hordeum floſculis lateralibus maſculis muticis, ſeminibus angularibus imbricatis*. Caſpar Bauhine calls it, *Hordeum diſtichon*. The place of its natural growth is uncertain.

4. Sprat Barley is, *Hordeum floſculis lateralibus maſculis muticis, ſeminibus angularibus patentibus corticatis*. Caſpar Bauhine calls it, *Zeocriton, ſ. oryza Germanica*; and Ray, *Hordeum diſtichum, ſpicâ breviore & latiore granis confertis*. The place of its original growth is alſo uncertain. Zeocri=ton.

5. Common Wall Barley-graſs, or Way-bent, is, *Hordeum floſculis lateralibus maſculis ariſtatis, involucris intermediis ciliatis*. Caſpar Bauhine calls it, *Gramen hordeaceum minus & vulgare*; Scheuchzer, *Gramen ſpicatum ſecalinum minus*; Gerard, *Gramen ſecalinum et ſecale ſylveſtre*; and Parkinſon, *Hordeum ſpurium vulgare*. It grows naturally on old mud-walls, by way-ſides, &c. in England, and moſt countries of Europe. Muri=num.

6. Tall Barley-graſs is, *Hordeum floſculis lateralibus maſculis muticis, involucellis ſetaceis lævibus*. Ray calls it, *Gramen myoſuroides nodoſum*. It grows naturally in England and India. Nodosum.

Hordeum is of the claſs and order *Triandria Digynia*; and the characters are, Claſs and order in the Linnæan ſyſtem. The characters.

1. CALYX is a glume compoſed of ſix narrow acuminated leaves, arranged by pairs, and containing three flowers.

2. COROLLA conſiſts of two valves. The inferior valve is ventricoſe, angular, oval, acuminated, longer than the calyx, and terminates in a very long ariſta. The interior valve is the ſmalleſt, ſpear-ſhaped, and plane.

3. STAMINA are three capillary filaments ſhorter than the corolla, having oblong antheræ.

4. PISTILLUM conſiſts of an oval turbinated germen, and two hairy reflexed ſtyles, with ſimilar ſtigmas.

5. PERICARPIUM. The corolla cloſely ſurrounds the ſeeds, and ſerves for a pericarpium.

6. SEMEN. The ſeed is oblong, ventricoſe, angulated, pointed at both ends, and marked on one ſide with a longitudinal furrow.

CHAP. CLXXIV.

HORMINUM, PYRENEAN CLARY.

THAT ſpecies of this genus which is a Perennial, has been already treated of in its proper place; the other ſort, which is a Biennial, is uſually called, Bugle-leaved Baum, or Virginian Wild Clary.

The plant deſcribed.

The ſtalk grows to about a foot high, and is garniſhed with two leaves only, the upper and lower part of it being naked. The leaves are wedge-ſhaped, oblong, entire, of a dark-red colour, and much veined. The flowers form a ſpike at the top of the ſtalk, and alſo compoſe two whorls under the ſpike at a little diſtance from each other; their colour is a pale-purple; they will be in blow in June, and ripen their ſeeds in the autumn.

Culture.

This ſpecies is propagated by ſowing the ſeeds in the ſpring. The mould ſhould be light, freſh, and ſandy, and the ſeeds covered hardly a quarter of an inch deep. When the plants come up, they ſhould be ſhaded in the heat of the day, and duly watered in dry weather. About June they will be fit to prick out in the nurſery-bed, when they ſhould be ſhaded and watered until they have taken root. In the autumn they muſt be removed to the places where they are deſigned to flower, which ought to be naturally warm and well-ſheltered; for this ſpecies is rather tender, and liable to be deſtroyed by our froſts; on which account a few plants ſhould be ſet in pots, to be preſerved under cover, in caſe very bad weather ſhould happen, to prevent the danger of loſing the ſort; for it is worthy of our care, from the ſingular and ſtriking look it cauſes from its dark-red veined leaves, almoſt naked ſtalks, and purple ſpikes of flowers.

Titles.
Virginicum.

This ſpecies is titled, *Horminum foliis cuneiformi-oblongis, caule bifolio.* Dillenius calls it, *Meliſſa atrorubens, bugulæ folio*; and Plukenet, *Sideritis, bugulæ folio, Mariana, floribus purpureis longo tubulo donatis.* It grows naturally in Virginia and Carolina.

CHAP. CLXXV.

HYOSCYAMUS, HENBANE.

Species.

OF this genus are,
1. Common Black Henbane.
2. White Henbane.
3. Red Henbane.
4. Low American Golden Henbane.

Deſcription of Common Black Henbane.

1. Common Black Henbane. The root is hard, thick, woody, and ſtrikes deep into the ground. The radical leaves are large, near a foot long, deeply ſinuated on the edges, pointed, ſeſſile, ſoft to the touch, of a blueiſh-green colour, and very diſagreeably ſcented. The ſtalks are thick, round, hard, woody, branching near the top, and about two feet high. The leaves are large, ſhaped like the radical ones, but ſmaller, grow alternately, and embrace the ſtalk with their baſe. The flowers are produced in rows from the ſides of the ſtalks; they are placed alternately, and ſit cloſe, without any footſtalks; they are of a duſky yellowiſh-white colour, having numerous ſtreaks of purple, and black bottoms; they appear in July and Auguſt; and are ſucceeded by large round capſules, containing ripe ſeeds, in September.

Medicinal qualities of it.

This ſpecies is uſed in medicine; but being very ſomniferous, and even poiſonous, ſhould be uſed internally with caution. It is ſalutary in external applications; and being made into an ointment, is ſaid to give eaſe in violent pains of the gout. Smelling to the flowers brings on ſleep, and the ſame effect is occaſioned by waſhing the feet in a decoction of this herb.

White Henbane deſcribed.

2. White Henbane. The leaves are large, hoary, roundiſh, obtuſely ſinuated, and grow on long footſtalks. The ſtalks are round, hoary, branching, and about a foot and a half high. The flowers are produced in cluſters from the ends of the branches, having very ſhort footſtalks; they are of a greeniſh yellowiſh-white colour, with dark-purple and green bottoms; they appear in July and Auguſt, and the ſeeds ripen in September.

Its uſes.

The root of this ſpecies boiled with vinegar, and kept hot in the mouth, is ſaid to eaſe the tooth-ach. The ſeeds are the White Henbane of the ſhops.

Red, 3. Red Henbane. The radical leaves are large, heart-ſhaped, ſinuated, acute, and ſmooth on the upper ſide; thoſe on the ſtalks are oval, ſpear-ſhaped, ſlightly indented, grow on ſhort footſtalks, and the floral leaves are oval, ſeſſile, and entire. The ſtalks are thick, round, branching, and about two feet high. The flowers come out alternately from the upper-parts of the branches on ſmall footſtalks; they are of a deep-red colour, and beautifully veined in the manner of net-work; they appear in Auguſt, and the ſeeds ripen in the autumn.

and Low American Golden Henbane deſcribed. 4. Low American Golden Henbane. The leaves are ſpear-ſhaped, ſmooth, and indented on their edges. The ſtalks are round, ſmooth, branching, and about a foot high. The flowers come out from the ſides of the branches in prickly cups; they are of a yellow colour, beautifully ſtreaked with purpliſh lines, and have dark bottoms; they appear in July, and are followed by ripe ſeeds in the autumn.

Culture. All theſe plants are Biennials. The firſt ſort grows naturally in uncultivated places in moſt parts of England, and is always extirpated when it appears in gardens. The ſecond is a cultivated plant, and is raiſed not only for obſervation, but for the ſake of the ſeeds, which are uſed in medicine. It is raiſed by ſowing the ſeeds, ſoon after they are ripe, in almoſt any ſoil or ſituation; and after they have once flowered and ſhed their ſeeds, the plants will continue to come up ſpontaneouſly. The third and fourth ſorts ſhould be ſown in a dry light ſoil, in a warm ſituation; otherwiſe they will be liable to be killed by hard winters. Theſe alſo will flower and ſcatter their ſeeds, which will come up, and frequently commence finer plants than thoſe raiſed by art.

For the laſt two ſorts, it would be proper to have the beds hooped, to be covered with matts in ſharp froſty weather; and this, except thinning them to proper diſtances, and keeping them clean from weeds, is all the trouble they will require.

1. Common Black Henbane is titled, *Hyoſcyamus foliis amplexicaulibus ſinuatis, floribus ſeſſilibus.* Caſpar Bauhine calls it, *Hyoſcyamus vulgaris et niger*; John Bauhine, *Hyoſcyamus vulgaris*; and Gerard, *Hyoſcyamus niger.* It grows naturally by way-ſides, ditches, back-yards, church-yards, fat and uncultivated places, in England, and moſt parts of Europe. Titles; Niger.

2. White Henbane is, *Hyoſcyamus foliis petiolatis ſinuatis obtuſis, floribus ſubſeſſilibus.* Caſpar Bauhine calls it, *Hyoſcyamus albus major*; alſo, *Hyoſcyamus albus minor*; and Cluſius, *Hyoſcyamus albus vulgaris.* It grows naturally in moſt of the ſouthern parts of Europe. Albus.

3. Red Henbane is, *Hyoſcyamus foliis caulinis petiolatis cordatis ſinuatis acutis: floralibus integerrimis, corollis ventricoſis.* Gronovius calls it, *Hyoſcyamus foliis caulinis lanceolatis ſubdentatis, radicalibus ſinuato-dentatis*; Caſpar Bauhine, *Hyoſcyamus, caulibus ſpinoſiſſimis, Ægypticus*; alſo, *Hyoſcyamus rubello flore*; Cluſius, *Hyoſcyamus peregrinus*; Cammerarius, *Hyoſcyamus peculiaris*; and Ray, *Hyoſcyamus Ægypticus.* It grows naturally in Crete, Syria, and Ægypt. Reticulatus.

4. Low American Golden Henbane is, *Hyoſcyamus foliis lanceolatis dentatis: floralibus inferioribus binis, calycibus ſpinoſis.* In the *Hortus Cliff.* it is termed, *Hyoſcyamus foliis lanceolatis.* Plukenet calls it, *Hyoſcyamus puſillus Americanus antirrhini foliis glabris.* It is a native of Perſia. Puſillus.

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CHAP. CLXXVI.

HYOSERIS.

Species. THE Annuals of this genus are,

1. Small Swine's Succory.
2. Annual *Hedypnois.*
3. Rhagadioloide *Hyoſeris.*

Small Swine's Succory, 1. Small Swine's Succory. The radical leaves are oblong, rounded a little at the end, hairy, ſerrated, of a blueiſh-green colour, and lie flat on the ground. The ſtalks are ſlender, naked, divide into a few branches, and grow about eight or ten inches high. The flowers are produced ſingly from the ends of the ſtalks or branches; they are ſmall, and of a pale-yellow colour; they appear in June and July, and the ſeeds ripen in Auguſt.

Annual Hedypnois. 2. Annual *Hedypnois.* The leaves are pretty large, ſmooth, and not much unlike thoſe of Marſh Marigold. The ſtalks are round, divide into many branches, and grow to about a foot and a half high. The flowers come out from the ends and ſides of the branches on incraſſated footſtalks; they are ſmall, and hang drooping; they appear in June and July, and are followed by ripe ſeeds ſoon after they are fallen.

and Rhagadioloide Hyoſeris deſcribed. 3. Rhagadioloide *Hyoſeris.* The leaves are moderately large, ſmooth, and lie on the ground. The ſtalks divide into many branches, and grow to about a foot and a half high. The flowers come out from the ends and ſides of the branches on longiſh footſtalks; they appear in June and July, and the ſeeds ripen in Auguſt.

Culture. All theſe ſorts are eaſily propagated by ſowing the ſeeds in the places where they are to remain. They ſhould be ſown ſoon after they are ripe, and they will flower early the ſummer following. After they come up, they will require no trouble, except thinning them where they are too cloſe, and keeping

keeping them clean from weeds; and after they have once flowered and ſhed their ſeeds, plants enough for a ſucceſſion will ariſe without any trouble.

Titles. Minima 1. Small Swine's Succory is titled, *Hyoſeris caule diviſo nudo, pedunculis incraſſatis.* Tabernæmontanus calls it, *Hyoſeris anguſtifolia*; Caſpar Bauhine, *Hieracium minus, folio ſubrotundo*; Cluſius, *Hieracium minimum*; Gerard, *Hyoſeris maſcula*; and Parkinſon, *Hieracium minimum Cluſii, Hyoſeris Tabernæmontani et Gerardi.* It grows naturally in ſandy, gravelly ſoils in England, and moſt parts of Europe.

Hedypnois. 2. Annual *Hedypnois* is, *Hyoſeris fructibus ovatis glabris, caule ramoſo.* In the *Hortus Upſal.* it is termed, *Lapſana fructibus ſubgloboſis glabris, ſeminibus diſci calyculato-pappoſis*; in the *Hortus Cliff. Lapſana calycibus fructûs capitatis dehiſcentibus, pedunculis incraſſatis, floribus nutantibus.* Vaillant calls it, *Rhagadioloides calthæ folio, calyce glabro*; Caſpar Bauhine, *Hieracium capitulum inclinatus, ſemine adunco*; Lobel, *Hieracium facie hedypnois*; and Tournefort, *Hedypnois annua.* It grows naturally in the ſouthern parts of Europe.

Rhagadioloides. 3. Rhagadioloide *Hyoſeris* is, *Hyoſeris fructibus ovatis piloſis, caule ramoſo.* In the *Hortus Upſal.* it is termed, *Lapſana fructibus globoſis piloſis, ſeminibus diſci calyculato-pappoſis.* It is common in moſt of the ſouthern countries of Europe.

C H A P. CLXXVII.

HYPECOUM.

THERE are three diſtinct ſpecies of this genus, all of which are Annuals, called,

Species.
1. Bow-podded *Hypecoum.*
2. Cylindrical-podded *Hypecoum.*
3. Twiſted-podded *Hypecoum.*

Bow, 1. Bow-podded *Hypecoum.* The ſtalks are ſlender, branching, and procumbent. The leaves are compoſed of many parts, are pointed, of a greyiſh colour, and the radical ones ſpread themſelves on the ground. The flowers come out on footſtalks from the wings of the leaves; they are of a yellow colour; they appear in June and July, and are ſucceeded by articulated, compreſſed pods, which are bent inwards, or ſhaped like a bow, containing ripe ſeeds in Auguſt.

Cylindrical, 2. Cylindrical-podded *Hypecoum.* The ſtalks are ſlender, branching, ſix or eight inches high, and nearly erect. The leaves are compoſed of many long ſlender ſegments; they are of a greyiſh colour, and the lower ones ſpread themſelves on the ground. The flowers are produced from the wings of the branches; they are ſmall, and of a yellow colour; they appear in June and July, and are ſucceeded by narrow, cylindrical, drooping pods, containing ripe ſeeds, in Auguſt and September.

and Twiſted-podded Hypecoum deſcribed. 3. Twiſted-podded *Hypecoum.* The ſtalks are ſlender, round, ſmooth, branching, and about the height of the former. The leaves are elegantly divided into a multitude of narrow parts, and the radical ones are large, and have long footſtalks, but thoſe on the ſtalks are ſmall. The flowers come out from the ſides of the branches, and are of a yellow colour; they appear in June and July, and are ſucceeded by erect, taper, twiſted pods, containing ripe ſeeds, in Auguſt and September.

Culture. All theſe plants are raiſed by ſowing the ſeeds in the autumn, ſoon after they are ripe, or the ſpring following. The autumnal plants will flower earlier the ſucceeding ſummer; but if the work be deferred until the ſpring, the plants will flower early enough to perfect their ſeeds before the end of autumn. In either caſe, when the plants are up, they will require no trouble, except thinning them where they are too cloſe and keeping them clean from weeds. Afterwards, if the ſeeds are permitted to ſcatter, they will grow, and ſpontaneouſly maintain the ſucceſſion without further trouble.

Titles. Procumbens. 1. The firſt ſpecies is titled, *Hypecoum ſiliquis arcuatis compreſſis articulatis.* In the *Hortus Cliff.* it is named ſimply, *Hypecoum.* Tournefort calls it, *Hypecoum latiore folio.* It grows naturally in moſt of the ſouthern parts of Europe.

Pendulum. 2. The ſecond ſpecies is titled, *Hypecoum ſiliquis cernuis teretibus cylindricis.* Moriſon calls it, *Hypecoum ſiliquis pendentibus non articulatis bivalvibus incurvis*; Caſpar Bauhine, *Hypecoi altera ſpecies*; and Dalechamp, *Cuminum ſylveſtre ſiliquatum ponæ.* It grows naturally in Germany, France, and Italy.

Erectum. 3. The third ſpecies is, *Hypecoum ſiliquis erectis teretibus toruloſis.* Amman calls it, *Hypecoum tenuifolium, ſiliquis erectis teretibus.* It grows naturally in Ruſſia.

Claſs and order in the Linnæan ſyſtem. *Hypecoum* is of the claſs and order *Tetrandria Tetragynia*; and the characters are,

The characters.
1. CALYX is a ſmall perianthium compoſed of two oval, acute, erect leaves, ſtanding oppoſite to each other.

2. COROLLA conſiſts of four petals. The two exterior, which are placed over-againſt each other, are the broadeſt, trilobed, and obtuſe. The interior ones ſtand alternately with the others, and are cut into three ſegments, the middle ſegment being concave, compreſſed, and erect.

3. STAMINA are four awl-ſhaped, upright filaments, covered by the ſegments of the inner petals, having oblong, erect antheræ.

4 PISTILLUM conſiſts of an oblong, cylindrical germen, and two very ſhort ſtyles, with acute ſtigmas.

5. PERICARPIUM is a long, incurved, articulated pod.

6. SEMINA. The ſeeds are ſingle in each articulation of the pod, globular, and compreſſed.

CHAP. CLXXVIII.

HYPOCHÆRIS.

OF this genus there is a ſmall Biennial, commonly called Smooth Hawkweed.

The plant deſcribed. The radical leaves are oblong, ſmooth, ſinuated, and the outer ones lie flat on the ground. The ſtalks are ſlender, ſmooth, naked, branching, and grow only to about five or ſix inches high. The flowers come out from the ends and ſides of the branches on thickiſh footſtalks; they are ſmall, and of a yellow colour; they appear in June and July, and the ſeeds ripen in Auguſt and September.

Culture. This plant is propagated by ſowing the ſeeds, ſoon after they are ripe, in any ſoil or ſituation. When the plants come up, they ſhould be thinned where they are too cloſe, and kept clean from weeds; and this is all the trouble they will require. When they have once ſeeded, a ſucceſſion of plants will be ſpontaneouſly afforded; and ſometimes in ſuch great plenty, as to become as troubleſome as weeds to be reduced to a proper number.

Titles. Glabra. This ſpecies is titled, *Hypochæris glabra, calycibus oblongis imbricatis, caule ramoſo nudo, foliis dentato-ſinuatis.* Vaillant calls it, *Hypochæris chondrillæ folio, parvo flore*; Caſpar Bauhine, *Hieracium minus, dentis leonis folio oblongo glabro*; and Ray, *Hieracium parvum in arenoſis naſcens, ſeminum pappis denſius radiatis.* It grows naturally in mountainous, gravelly ſoils in England, Denmark, and Germany.

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CHAP. CLXXIX.

IBERIS, CANDY-TUFT, or SCIATICA CRESS.

Species. THE Annuals of this genus are,

1. Common Umbellated Candy-Tuft,
2. Bitter Helvetian Candy-Tuft, or Field Treacle Muſtard.
3. Sweet-ſcented Candy-Tuft, or Cretan Treacle Muſtard.
4. Arabian Candy-Tuft.
5. Rock Creſs.

Common Umbellated, 1. Common Umbellated Candy-Tuft. The ſtalks are round, divide into numerous ſpreading branches, and are of a pale-green colour. The leaves are ſpear-ſhaped, and pointed; the lower ones are ſerrated, but the upper ones are entire. The flowers come out in umbels from the ends of the branches. The varieties are the White, the Red, and the Purple. They may be made by different ſowings of the ſeeds to ſhew themſelves all ſummer; and they produce plenty of ſeeds for a ſucceſſion.

Bitter Helvetian 2. Bitter Helvetian Candy-Tuft, or Field Treacle Muſtard. The ſtalks are round, of a pale-green colour, divide into numerous ſpreading branches, and grow to about a foot high. The leaves are ſpear-ſhaped, acute, and ſlightly indented on the edges. The flowers come out in bunches from the ends of the branches; they are of a gloſſy-white colour, may be made to appear any time in the ſummer, and afford plenty of good ſeeds for a ſucceſſion.

Sweet-ſcented 3. Sweet-ſcented Candy-Tuft. This ſpecies hath a low, branching ſtalk, about ſix inches high. The leaves are narrow, dilated at the top, and ſerrated. The flowers come out in umbels from the ends of the branches, are white, and have an agreeable odour; they flower at the ſame time with the former ſpecies, and ripen their ſeeds accordingly.

and Arabian Candy-Tuft deſcribed. 4. Arabian Candy-Tuft. The ſtalks are herbaceous, ſlender, and about ſix or eight inches high. The leaves are oval, ſmooth, entire, and of a bright-green colour. The flowers come out in ſpikes from the tops of the ſtalks, are of a purple colour, appear in July and Auguſt, and the ſeeds ripen in September.

Rock Creſs deſcribed. 6. Rock Creſs. The leaves are ſmall, ſinuated or cut almoſt to the mid-rib, and lie flat on the ground. The ſtalks are naked, ſimple, and about two or three inches high. The flowers terminate the ſtalks in ſmall umbels, are of a white colour, appear in ſucceſſion all ſummer, and the ſeeds ripen in due order.

Culture. All theſe plants will grow in any ſoil or ſituation; but they thrive beſt in freſh land, in open places. They look extremely paltry in ſmall gardens ſown in patches, &c. but in large gardens they may be made to be very ornamental, and to vie in beauty with any low Annuals of the like kind. The ſowings ſhould be made at different times, that the ſucceſſion may be the longer. The firſt ſowing ſhould be made in Auguſt, and the plants will come up, ſtand the winter, and flower early the ſummer following. The next ſowing ſhould be made in

October; the plants will then come up in the ſpring, and begin to blow as the former go off. The third ſowing ſhould be made in April, to ſucceed the preceding; and a fourth ſhould be made in May or June, to come in in the autumn. They ſhould be ſown in long rows; and when the plants come up, they ſhould be thinned that they may have room to ſpread; and this, together with keeping them clean from weeds, is all the trouble they will require. After they have once flowered, and the ſeeds have ripened, if they have been permitted to ſcatter, plenty of plants will always enſue for a ſucceſſion; but as ſuch plants are apt to come up in improper places, regular ſowings ſhould always be made at the different intervals above-mentioned.

Titles. Umbellata. 1. Common Umbellated Candy-Tuft is titled, *Iberis herbacea, foliis lanceolatis acuminatis, inferioribus ſerratis, ſuperioribus integerrimis.* Caſpar Bauhine calls it, *Thlaſpi umbellatum Creticum, iberidis folio*; and Dodonæus, *Draba, ſ. Arabis, ſ. thlaſpi Candiæ.* It grows naturally in Hetruria, Spain, and Crete.

Amara. 2. Bitter Helvetian Candy-Tuft is, *Iberis herbacea, foliis lanceolatis acutis ſubdentatis, floribus racemoſis.* Guettard calls it, *Iberis foliis obverſè lanceolatis, floribus umbellatis*; Caſpar Bauhine, *Thlaſpi umbellatum arvenſe, iberidis folio*; John Bauhine, *Thlaſpi umbellatum arvenſe amarum*; Rivinus, *Thlaſpidium folio iberidis*; and Tabernæmontanus, *Thlaſpi amarum.* It grows naturally in Helvetia.

3. Sweet-ſcented Candy-Tuft is, *Iberis herbacea, foliis linearibus ſupernè dilatatis ſerratis.* Caſpar Bauhine calls it, *Thlaſpi umbellatum Creticum, flore albo odoro, minus*; and Cluſius, *Thlaſpi parvum IV. odorato flore.* Odorata.

4. Arabian Candy-Tuft is, *Iberis herbacea, foliis ovatis glabris, aveniis integerrimis, ſiliculis baſi apiceque bilobis.* Buxbaum calls it, *Thlaſpi humile, ſpicâ purpureâ.* It grows naturally in Arabia and Cappadocia. Arabica.

5. Rock-Creſs is, *Iberis herbacea, foliis ſinuatis, caule nudo ſimplici.* Caſpar Bauhine calls it, *Burſa paſtoris minor; foliis inciſis*; Dodonæus, *Burſa paſtoris minor*; and Gerard, *Naſturtium petræum.* It grows naturally in ſandy, ſterile places in England and moſt parts of Europe. Nudicaulis.

CHAP. CLXXX.

ILLECEBRUM, MOUNTAIN KNOT-GRASS.

THERE is one ſpecies of this genus of eaſy culture, called Cymoſe Mountain Knot-Graſs.

This plant deſcribed. The ſtalks are ſlender, jointed, branching, and lie on the ground. The leaves are narrow, of a thickiſh ſubſtance, and four of them are uſually produced at a joint. The flowers come out from the ends and ſides of the branches in ſmall ſpikes. There is no corolla; the permanent, fine-leaved, coloured calyx is all the ſhow. They appear in June and July, and the ſeeds ripen in Auguſt and September.

Property of the flowers. The flowers of this, and, indeed, of all the ſpecies of this genus, have the never-fading property of the *Gomphrena's*, or Eternal Flowers; the cups being permanent, gloſſy, and retaining their beauty for many months after they are gathered.

This ſpecies is propagated by ſowing the ſeeds in a bed of light earth in the ſpring, or in the autumn ſoon after they are ripe. When they come up, they will require no trouble except thinning them where they appear too cloſe, and keeping them clean from weeds; and the ſummer following they will flower and perfect their ſeeds. Culture.

The Cymoſe Mountain Knot-Graſs is, *Illecebrum ſpicis cymoſis ſecundis, caule diffuſo, foliis quaternis.* Boccone calls it, *Polygonum capitula inter genicula echinata*; and Dalechamp, *Polygoni Hiſpanici genus Cluſii.* It grows naturally in Spain and the South of France. Titles. Cymoſum.

CHAP. CLXXXI.

IMPATIENS, BALSAM, or FEMALE BALSAMINE.

Species.

THE Annuals of this genus are,
1. Common Balſam.
2. Yellow Balſam, or *Noli me tangere*.
3. Chineſe Balſam.
4. Broad-leaved Balſam.
5. Oppoſite-leaved Balſam.
6. Long-ſpurred Balſam.
7. Three-flowered Balſam.

Common Balſam deſcribed.

1. Common Balſam. This is the moſt noted ſpecies of this genus, and is uſually known among Gardeners by the name of Female Balſamine. It is reckoned an Annual of the firſt claſs, and, like the Coxcombs, the *Bicolors*, the *Tricolors*, &c. has occaſioned much emulation among Gardeners to ſhew it in its greateſt perfection. In a ſtate of nature, the plant riſes with an upright, round, thick, firm, ſucculent, branching ſtalk, to about a foot and a half high. The leaves are long, ſpear-ſhaped, ſerrated, and of a pale-green colour. The flowers grow ſingly on weak, ſlender footſtalks, which come out three or four together from the joints; they are large, of different colours, and the general characters after the titles ſhew their ſtructure. They appear in June and July, and the ſeeds ripen in September.

Varieties of it.

The varieties of this ſpecies are, the Red, the White, the Purple, the Variegated, the Doubles of all the ſorts, and ſome Variegated with different colours. Some are very large and double, and ſweetly variegated with ſcarlet and white, purple and white, and the like. Theſe larger ſorts, among Gardeners, have the name of Immortal Eagle Flower; and if care is taken in preſerving the ſeeds, it is amazing to think how little the plants will vary by them.

Propagation of the Doubles of all the ſorts.

The Doubles of all the ſorts, however, are the Gardener's chief care; and in order to have the beſt ſhow, the ſeeds ſhould be collected from plants of the beſt properties. Theſe ſhould be marked out for the purpoſe; and all the plain-coloured flowers, the ſingle, and thoſe with bad colours, ſhould be picked out; and the full Double ones only, with the brighteſt colours, ſhould be left remaining for ſeeds. Having procured ſeeds from ſuch flowers, let a good hot-bed be provided by the firſt week in March; and let the ſeeds be ſcattered very thinly on this bed, and covered about a quarter of an inch deep. The ſoil they muſt be ſown in ſhould be freſh, rich, and light; and after the above work the plants will ſoon come up. The greateſt difficulty will then be to give them a due temperature of air; for this muſt be obſerved from the beginning, otherwiſe they will turn yellow, and will either draw up weak, or their tender, ſucculent ſtems will rot and decay. Let them have, therefore, as much free air as poſſible, and let them ſtand here until they are about two or three inches high; for if they are removed earlier, their young ſtalks are of ſo tender a nature, that they cannot recover themſelves for ſome time, and a ſmall degree of over-watering will deſtroy them. By the time the plants are of that ſize, let another hot-bed be provided, with a good frame to keep up the mould. In this bed ſet your plants in lines, having carefully taken them up with a ſcooping trowel, to preſerve a ball of earth to each root. Watering muſt be frequently afforded them, but in ſmall quantities at a time; and the glaſſes muſt be ſhaded in hot weather. Without any more trouble, they will blow fair, and make a delightful appearance.

Some perſons recommend the removing them three times: But this is unneceſſary trouble and expence, for I have always had the ſtrongeſt plants by obſerving the above method; nay, I have had them exceeding ſtrong and fine, when never removed at all, but only thinned in the bed to make room for the plants to ſpread. After all, the ſtrongeſt plants I have ever yet had have been produced from ſuch ſeeds as ſowed themſelves in a common border, and came up without any art or aſſiſtance at all. I have had them this way large and branching, having the main-ſtalk at the bottom as thick as a moderate hedge-ſtake, and exhibiting their delightful bloom in amazing plenty and perfection. This teaches us, that if we ſow the ſeeds in a light, rich border of freſh earth, we may expect good plants (though flowering later) without any more trouble than thinning them at firſt, keeping them clean from weeds, and now-and-then watering them in very dry weather. If any plants are required for pots, to adorn court-yards, or the like, they ſhould be planted therein from the firſt hot-bed when they are about three inches high; and the pots ſhould be plunged in the ſecond hot-bed, and managed as before directed. In July the pots may be removed to the places the flowers are deſigned for.

Yellow Balſam deſcribed.

2. Yellow Balſam, or *Noli me tangere*, is a border-flower of very little beauty. It is preſerved chiefly on account of its ſpirting property; for the pods, on being touched, burſt open, and ſpirt out the ſeeds with great elaſticity, to the ſurprize of thoſe who handle them. Hence it has obtained the name Touch-me-not. It ariſes with an upright, ſucculent, jointed ſtalk to the height of about a foot. The leaves are oval, ſmooth, and grow alternately. The flowers are produced from the wings of the ſtalks on long, ſlender footſtalks; theſe again branch out into ſmaller, and each ſuſtains a ſingle flower. The flowers are yellow, and are ſucceeded by taper pods poſſeſſed of the above-mentioned burſting or ſpirting property.

Culture of it.

This ſpecies is eaſily propagated. Sow the ſeeds in any border; though if it be a ſhady border, it will be the better. The autumn is a better ſeaſon for ſowing them than the ſpring, and they will readily come up. Afterwards, they will ſcatter their ſeeds and come up themſelves in great plenty, and will require no further trouble than thinning and keeping them clean from weeds.

3. Chineſe Balſam. The ſtalk is upright, thick, firm, ſends out branches alternately, and

is of a deep-red or purple colour. The leaves are oval, ſlightly ſerrated, ſeſſile, and grow oppoſite to each other at the joints. The flowers come out ſingly from the wings of the leaves on long, ſlender footſtalks; they are of a purple colour, have very thick, arched nectariums, appear in July, and the ſeeds ripen in the autumn.

Deſcription of Broad-leaved,

4. Broad-leaved Balſam. The ſtalks are upright, firm, branching, and about a foot and a half high. The leaves are oval, ſpear-ſhaped, crenated, and grow alternately on the branches. The flowers are produced ſingly from the ſides of the branches on long, ſlender footſtalks; are about the ſize of the Common Female Balſam, but have a very long, awl-ſhaped ſpur; they appear in July, and the ſeeds ripen in the autumn.

Oppoſite-leaved,

5. Oppoſite-leaved Balſam. The ſtalks are ſlender, divide into a few branches, and grow only to about eight or ten inches high. The leaves are narrow, and placed oppoſite to each other. The flowers grow ſingly on footſtalks, which come out many together from the joints; they are ſmall, but ſhaped nearly like the Common Balſam, appear in July, and the ſeeds ripen in September.

Long-ſpurred,

6. Long-ſpurred Balſam. The ſtalks of this ſpecies are round, ſucculent, divide into a few branches, and grow to about a foot and a half high. The leaves are broad, ſpear-ſhaped, and ſit cloſe, without any footſtalks. The flowers grow ſingly on footſtalks, which come out many together from the joints; they are ſhaped like the Common Balſam, but are remarkable for their long ſpurs, and appear in July. The ſeeds ripen in the autumn.

and Three-flowered Balſam.

7. Three-flowered Balſam. This ſpecies divides into a few ſlender, ſucculent branches, and grows to about a foot high. The leaves are narrow, ſpear-ſhaped, and ſawed on their edges. The flowers riſe three together on one common footſtalk, are ſmall and of little beauty, appear in July, and the ſeeds ripen in the autumn.

Propagation of theſe ſpecies.

All theſe ſpecies are tender plants, being natives of the hotter part of the world. They are, nevertheleſs, to be raiſed by the ſame culture as the Female Balſam; and by the due obſervance of that method they may be made to flower and perfect their ſeeds.

Titles.

Balsami=
=na.

1. Common Balſam is entitled, *Impatiens pedunculis unifloris ſubaggregatis, foliis lanceolatis, ſuperioribus alternis, nectariis flore brevioribus.* In the *Hortus Cliffort.* it is termed, *Impatiens pedunculis confertis unifloris.* Caſpar Bauhine calls it, *Balſamina femina*; and Dodonæus, ſimply, *Balſamina.* It grows naturally in India.

Noli me
tangere

2. Yellow Balſam is, *Impatiens pedunculis multifloris ſolitariis, foliis ovatis, geniculis caulinis tumentibus.* In the *Hortus Cliffort.* it is termed, *Impatiens pedunculis ſolitariis multifloris.* Caſpar Bauhine calls it, *Balſamina lutea, ſive Noli-me-tangere.* It grows in England, and in ſeveral parts of Europe; alſo in Canada.

Chinen=
=sis.

3. Chineſe Balſam is, *Impatiens pedunculis unifloris ſolitariis, foliis oppoſitis ovatis, nectariis arcuatis.* It grows naturally in China.

Latifolia.

4. Broad-leaved Balſam is, *Impatiens pedunculis unifloris ſolitariis, foliis ovatis, ſerraturis lanceolatis, nectariis flore longioribus.* It grows naturally in India.

Oppositi=
=folia.

5. Oppoſite-leaved Balſam is, *Impatiens pedunculis unifloris aggregatis, foliis oppoſitis linearibus.* It grows naturally in the ſandy parts of Ceylon.

Cornuta.

6. Long-ſpurred Balſam is, *Impatiens pedunculis unifloris aggregatis, foliis lanceolatis, nectariis flore longioribus.* Burman calls it, *Balſamina latifolia, floris calcari longiſſimo.* It grows naturally in Ceylon.

Triflora.

7. Three-flowered Balſam is, *Impatiens pedunculis trifloris ſolitariis, foliis anguſto-lanceolatis.* Burman calls it, *Balſamina anguſtifolia, floribus ternis communi pedunculo ortis*; and Herman, *Balſamina erecta ſ. femina, perſicæ anguſto folio, Zeylanica.* It grows naturally in moiſt places in Ceylon.

Claſs and order in the Linnæan ſyſtem.

Impatiens is of the claſs and order *Syngeneſia Monogamia*; and the characters are,

The characters.

1. Calyx is a perianthium compoſed of two roundiſh, pointed, equal, coloured, deciduous leaves, which are placed againſt the ſides of the petals.

2. Corolla is ringent, and conſiſts of five unequal petals. Theſe are roundiſh; the upper one is erect, ſlightly cut into three parts, and forms the upper lip. The two lower petals are broad, obtuſe, irregular, reflexed, and conſtitute the lower lip. The intermediate pair are equal, are placed oppoſite, and join at their baſe. The nectarium is of one leaf, ſituated at the bottom of the flower, and in ſhape like a hood; it is oblique at the top, riſing on the outſide, and ends at the baſe in a tail or ſpur.

3. Stamina are five very ſhort, incurved filaments, which are narrow at their baſe; and the like number of antheræ, which join at the top, but are divided at their baſe.

4. Pistillum conſiſts of an oval, pointed germen, and no ſtyle, but a ſimple ſtigma that is ſhorter than the antheræ.

5. Pericarpium is an unilocular capſule, opening with an elaſtic force in five twiſted, ſpiral valves.

6. Semina. The ſeeds are roundiſh, and are fixed to the columnar receptacle.

CHAP.

CHAP. CLXXXII.

INDIGOFERA, INDIGO.

THE ſpecies of this genus that may be uſed as Annuals, are,

Species.

1. The Indigo Blue Plant.
2. The Cape Indigo.
3. The Trifoliate Indigo.

The Indigo Blue Plant deſcribed.

1. The Indigo Blue Plant. By this is meant the ſpecies that affords the Indigo Blue. Good Indigo may be collected from the other ſpecies, but perhaps not ſo fine or in ſuch large quantities. This is a very beautiful plant, and will grow to about a yard high. The ſtalks are upright, ligneous, round, and of a greyiſh colour. The leaves are finely pinnated, and each of them is compoſed of four or five pair of oval lobes, terminated by an odd one; they are of a dark-green colour, and are placed without order on the branches. The flowers are produced from the ſides of the ſtalks in ſhort ſpikes, are ſmall, of a reddiſh colour, and are ſucceeded by arched, hoary pods.

Deſcription of the Cape

2. The Cape Indigo. The ſtalks are upright, firm, and garniſhed by ternate leaves growing without order on long footſtalks. The flowers grow in elongated ſpikes from the ſides of the branches, and are ſucceeded by cernuous pods.

and Trifoliate Indigo.

3. Trifoliate Indigo. The leaves of this ſpecies alſo are ternate, and the folioles are of a lanceolate figure. The flowers grow from the ſides of the ſtalks, and are ſucceeded by compreſſed, pendulous pods.

Culture.

In order to raiſe theſe plants, let a good hot-bed be got in readineſs by the beginning of March. Then cover it with a moderate thickneſs of fine, rich mould; and ſow the ſeeds thereon, ſifting over them about a quarter of an inch of the ſame fine mould. When the plants come up, give them as much air as the weather will permit, and now-and-then ſprinkle them with water. By the time the heat of the firſt hot-bed is over, let a ſecond be in readineſs; and herein ſet your plants. Here they may ſtand to flower; and if this be your intention, without further removing them, they muſt have a deep frame, and the plants muſt be near ſix inches aſunder. As they ariſe in height, every other plant ſhould be taken out and planted in pots, obſerving always to preſerve a ball of earth to the roots. Then ſet theſe pots on another hot-bed provided for the purpoſe, filling up the vacancies with common garden-mould. In either caſe give the plants plenty of air by raiſing the glaſſes. Water them every evening in dry weather; and in moiſt, mild weather take the glaſſes off entirely, that the plants may be exhilarated by refreſhing, gentle rains. By the beginning of July they will be in blow, and in September the ſeeds will be ripe for a ſucceſſion.

Management of the firſt ſpecies in the Eaſt and Weſt Indies.

In the above manner muſt theſe plants be raiſed to ſhew them in perfection in this country. In the Eaſt and Weſt Indies the firſt ſpecies is propagated in vaſt quantities, for the ſake of the preparation called Indigo Blue. Their method of raiſing it is this: Having made choice of a good, rich, light ſoil, in an open expoſure, they firſt of all clean it from all manner of weeds or plants; and after that make holes, at about a foot aſunder, in right lines. Theſe holes are about eight inches broad, and three deep; and herein they ſow the ſeeds. It is a common notion among many perſons in England, that an odd number is lucky. The Indians are alſo poſſeſſed of the ſame opinion, and always put eleven or thirteen ſeeds into the above holes, and cover them over with about two inches depth of the earth that had been taken out of the holes. In a few days the plants will come up, if the ſeaſon is moiſt. All the time they are growing, they are conſtantly kept clean from weeds; and when they begin to flower, are cut for uſe. This the Indians are punctual in obſerving, becauſe, if omitted but a little time, the plants will grow ſtringy and yellow, and the Indigo will be of a bad colour, leſs in quantity, and of inferior value. From the time of the plants firſt appearing above ground to this firſt cutting, is about two months. Afterwards, they cut them every ſix weeks, if the weather is rainy; but they never cut them in a dry ſeaſon, as it would infallibly deſtroy the plants. With this management they will continue two years; when they are plucked up, and a freſh plantation is made as before.

Immediately upon cutting of it, they carry it to the vats. Of theſe there are three, placed one above another. The firſt or largeſt is called the Steeper, and is uſually twenty feet long, fifteen wide, and three deep; and in this the plants are ſteeped, fermented, and macerated. The ſecond vat they call the Battery; and in this they agitate or beat the water, replete with the juices of the plant, until the particles are properly collected, coagulated, prepared, or formed for dying. The third vat is uſually termed the Settler; becauſe it is in this the Indigo ſettles to the bottom of the vat, forms a maſs, and becomes deeply-coloured.

Having put as many plants in the ſteeper as it can well contain, and having filled it with water, they lay pieces of wood over the plants, to keep them down; and in about ſix or eight hours, if the plants are young, the fermentation will come on, which ſoon grows very violent; and the water becomes thick and blue. After this, they open the corks, and let it off into the ſecond vat, called the Battery. In this the Negroes violently beat the water with amazing labour, until the ſalts and particles of the plants are properly incorporated. Upon leaving off beating, the fæces ſink to the bottom, and form a kind of mud. The water ſoon becomes clear, and is then drawn off by means of cocks placed at different heights on the ſide; and the fæces, by means of cocks in the bottom, are let into the ſettler. Here they let them ſettle again; then put them into linen bags for the water to be thoroughly drained off; and afterwards ſpread them in boxes, and dry them by degrees for uſe.

It ſometimes happens that the caterpillars take a crop of Indigo, and will come in ſuch numbers as ſoon to deſtroy it. The method then is to cut the plants, let their age be what it will;

and carry it with their devourers to the ſteeper. From ſuch plants the beſt Indigo is always prepared; and I am pretty certain, that the goodneſs or inferior value of Indigo is owing to the age or time of cutting the plants. The younger the plants are, the finer will be the Indigo, tho' the quantity will always be leſs.

Titles. Tinctoria. 1. The Indigo Blue Plant is titled, *Indigofera leguminibus arcuatis incanis, racemis folio brevioribus.* In the *Hortus Cliffort.* it is termed, *Indigofera foliis nudis.* Caſpar Bauhine calls it, *Iſatis Indica, foliis roſmarini, glaſti affinis*; John Bauhine, *Anil ſive nil inodorum color*; and Rheede, *Ameri.* It grows naturally in India.

Racemosa 2. Cape Indigo is, *Indigofera leguminibus cernuis, racemis elongatis, foliis ternatis.* It grows naturally at the Cape of Good Hope.

Trifoliata. 3. Trifoliate Indigo is, *Indigofera leguminibus ſubſeſſilibus compreſſis pendulis, foliis ternatis lanceolatis.* It grows naturally in India.

Claſs and order in the Linnæan Syſtem. *Indigofera* is of the claſs and order *Diadelphia Decandria*; and the characters are,

The characters. 1. CALYX is a plane, patent, monophyllous perianthium, indented in five parts at the top.

2. COROLLA is papilionaceous. The vexillum is rounded, emarginated, patent, and reflexed. The alæ are oblong, obtuſe, and of the ſame figure with the vexillum. The carina is obtuſe, patent, and deflexed.

3. STAMINA. The filaments are diadelphous; one filament ſtands ſeparate, the others form a cylinder, and all have roundiſh antheræ.

4. PISTILLUM conſiſts of a cylindrical germen, a ſhort aſcendant ſtyle, and an obtuſe ſtigma.

5. PERICARPIUM is a long taper pod.

6. SEMINA. The ſeeds are reniforme.

CHAP. CLXXXIII.

INULA, ELECAMPANE.

Species. THE ſhort-lived ſpecies of this genus are,
1. Small Flea-bane.
2. Stinking Flea-bane.
3. Sweet-ſcented Flea-bane.
4. Indian *Inula*.

Small Flea-bane deſcribed. 1. Small Flea-bane. The ſtalks of this are ſlender, branching, about a foot long, and lie on the ground. The leaves are oblong, ſpear-ſhaped, obtuſe, ſoft, woolly, waved, and embrace the ſtalks with their baſe. The flowers come out from the ends and ſides of the branches on their own ſeparate leafy footſtalks; they are round and yellow, but are deſtitute of thoſe great ornaments to flowers of this genus, the rays; they appear in July and Auguſt, and are followed by downy ſeeds, which ripen in September.

Variety. There is a variety of this ſpecies of more upright growth, and larger leaves and flowers.

Deſcription of Stinking 2. Stinking Flea-bane. The ſtalks of this are round, branching, and about a foot and a half high. The leaves are ſpear-ſhaped, narrow, and entire. The flowers come out in roundiſh bunches from the tops of the ſtalks; they are ornamented with rays, though theſe are very ſhort; they appear in July and Auguſt, and the ſeeds ripen in September.

and Sweet-ſcented Flea-bane. 3. Sweet-ſcented Flea-bane. The ſtalks are upright, firm, and about a foot high. The leaves are oblong, decurrent, indented, clammy to the touch, and of an agreeable odour. The flowers come out in cloſe roundiſh bunches from the tops of the ſtalks; they are of a yellow colour, the rays are very ſhort, and they are ſtrongly ſcented like tanſy; they appear in June and July, and the ſeeds ripen in September.

Indian Inula deſcribed. 4. Indian *Inula*. The ſtalks of this divide into a few branches near the bottom, and grow to about a foot and a half high. The leaves are cordated at the baſe, ſpear-ſhaped, acute, ſmooth on their upper ſide, a little hairy underneath, and they embrace the ſtalk with their baſe. The flowers come out from the tops of the plants, on long ſlender footſtalks, which are ſometimes furniſhed with one ſmall leaf; they are of a yellow colour, and, like the Small Flea-bane, almoſt round, but larger; they appear in July and Auguſt, and the ſeeds ripen in the autumn.

Culture of the firſt three ſpecies. The two firſt ſorts are Annuals; the third is a Biennial. They are raiſed by ſowing the ſeeds in the autumn, ſoon after they are ripe, in the places where they are to remain; and when they come up they muſt be thinned to proper diſtances; and this, except keeping them clean from weeds, is all the trouble they will require.

Culture of the fourth ſpecies. The fourth ſort ſucceeds very well if the ſeeds are ſown in the open ground, but the beſt way will be to ſow them in the ſpring, on a moderate hot-bed: In May, on a moiſt day, they ſhould be removed to the places where they are to remain. If dry weather ſhould happen, they ſhould be watered and ſhaded at firſt, and they will then ſoon ſtrike root, will flower in July and Auguſt, and the ſeeds will ripen in September.

Titles. Pulicaria. 1. Small Flea-Bane is titled, *Inula foliis amplexicaulibus undulatis, caule proſtrato, floribus ſubgloboſis.* In the *Flora Suecia* it is termed, *Erigeron foliis undulatis amplexicaulibus*; in the *Hortus Cliffort. Conyza ramis ſecundum flores gradatim enaſcentibus, foliis lanceolatis obtuſis.* Caſpar Bauhine calls it, *Conyza major, flore globoſo*; alſo, *Conyza minor exotica.* Dodonæus names it, *Conyza minima*; Vaillant, *Helenium paluſtre annuum, hyſſopi foliis criſpis*; Barrelier, *Aſter paluſtris fruticoſus minimus*; Plukenet, *Conyza minor Hiſpanica ex oris Gaditanis*; and Ray, *Conyza media criſpa lacuſtris, flore nullatenus radiato.* It grows naturally in England, and in moſt of the ſouthern parts of Europe.

Fœtida. 2. Stinking Flea-Bane is, *Inula foliis lanceolatis linearibus integerrimis, corymbis ramoſis, radiis breviſſimis.* In the *Hortus Cliffort.* it is termed, *Solidago foliis lanceolato-linearibus, &c.* Boccone calls it, *Conyza Melitenſis, retuſis foliis.* It grows naturally in Melita.

2. Sweet-

Bifrons. 3. Sweet-ſcented Flea-Bane is, *Inula foliis oblongis decurrentibus denticulatis, floribus congeſtis terminalibus ſubſeſſilibus.* Herman calls it, *Conyza Pyrenaica, foliis primula veris.* Boccone, *Conyza præalta, caule alato, odorata.* It grows naturally on the Alps and Pyrenean mountains.

Indica. 4. Indian *Inula* is, *Inula foliis amplexicaulibus cordato-lanceolatis, pedunculis filiformibus, floribus ſubgloboſis.* Vaillant calls it, *Helenium ramoſum, caulibus ſparſis, calthæ arvenſis folio*; Plukenet, *Aſter conyzoides Ind. Orient. ramoſior, caulibus ſparſis*; and Burman, *Jacobæa perfoliata, folio longo acuto auriculato.* It grows naturally in the Eaſt Indies.

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CHAP. CLXXXIV.

IPOMOEA, QUAMOCLIT.

Introductory Remarks. THE ſpecies of the *Ipomœa* are beautiful enough in themſelves; but the properties of moſt of them are of ſuch a nature, as to diſqualify them for almoſt any place in our Work. The far greater part of them are Annuals with us; but moſt of them are of ſo tender a nature, that they will not do well without the care and management of the ſtove. This is too expenſive, and the collection of plants proper for it ſo very great, as to render it not worth the while to admit plants of ſuch ſhort duration as Annuals. There are Perennials of this genus; but theſe, like the *Convolvuli*, are too rambling, and greatly loſe their charms when confined within the narrow limits of the ſtove. The greateſt part of this ſpecies, however, muſt be reſerved for the ſtove; for they will not do in the open air, and are too rambling for hot-bed frames; and the Annuals which I ſhall introduce in this place ſhall be only,

Species.
1. Ivy-leaved *Quamoclit*, or Scarlet *Convolvulus*.
2. Nightſhade-leaved *Quamoclit*.
3. Virginian *Quamoclit*.

Theſe have ſeveral varieties, and

The firſt Species with its Varieties deſcribed. 1. Of the firſt ſpecies there are, the Scarlet-flowering Ivy-leaved *Quamoclit*, and the Orange-coloured Ivy-leaved *Quamoclit*. There is no difference in theſe, except in the colour of their flowers; their other properties are exactly the ſame. They have ſlender twining ſtalks, and by the help of ſticks or buſhes will ariſe to about ſix feet in height. The leaves are of a cordated figure, are pointed at the extremity, and are divided into angles at their baſe. The flowers grow from the ſides of the branches on ſlender footſtalks; they are large, and funnel-ſhaped; four or five of them will be produced on a footſtalk: Their colour is ſcarlet and orange in the different varieties; and in favourable ſeaſons they will be ſucceeded by good ſeeds.

Deſcription of the Nightſhade-leaved 2. Nightſhade-leaved *Quamoclit*. This will riſe with its winding ſtalks to about five or ſix feet in height. The leaves are heart-ſhaped, and their edges are entire; they are acutely pointed, and a little reſemble thoſe of the *Solanum*. The flowers are produced ſingly from the ſides of the branches; they are funnel-ſhaped, and of an elegant paliſh-red colour. In favourable ſeaſons this plant will perfect its ſeeds.

and Virginian Quamoclit. 3. Virginian *Quamoclit*. The ſtalks of this ſpecies are ſlender, twining, and ſix or eight feet high. The leaves are heart-ſhaped, pointed, and angular at their baſe. The flowers grow one or two together on footſtalks, which come out from the ſides of the ſtalks; they are long, and of a fine white colour ſtriped with purple; they appear in Auguſt, and the ſeeds ripen in the autumn.

Culture. The beſt way of raiſing theſe plants is by ſowing the ſeeds in ſmall pots, two or three ſeeds in a pot, and then to plunge the pots in a moderate hot-bed. About the middle of March is a proper time for this buſineſs; and let them be managed with the care of hot-bed plants until about the middle of May. All the while be ſure to let them have air and water in plenty, and let them be brought up as hardy as that way will admit of. Then about the middle or latter end of May, on a moiſt day, turn them out of the pots, with the mould to the roots, into the borders where they are deſigned to flower.

Small ſticks muſt have been ſtuck for them to wind about, as they advance in height, in the hot-bed. Now others muſt be added to them of a greater length, that, by ſuch aſſiſtance, they may ariſe and ſhew their flowers to the greateſt advantage; and by this method their ſeeds will be pretty certain of being brought to perfection.

If you have no conveniency of an hot-bed, ſow the ſeeds the latter end of March in a warm border, and they will readily come up, and the plants will flower; but this will be late in the autumn, and conſequently good ſeeds can hardly be expected.

Titles. 1. Ivy-leaved *Quamoclit*, or Scarlet *Convolvulus*, is titled, *Ipomœa foliis cordatis acuminatis, baſi angulatis, pedunculis multifloris.* Commeline calls it, *Quamoclit Americana, folio hederæ, flore coccineo.* It grows naturally in Domingo. Coccinea.

2. Nightſhade-leaved *Quamoclit*. This is titled, *Ipomœa foliis cordatis acutis integerrimis, floribus ſolitariis.* Plumier calls it, *Quamoclit ſolani folio, flore roſeo.* It grows naturally in America. Solanifolia.

3. Virginian *Quamoclit* is, *Ipomœa foliis cordatis ſcrobiculatis baſi angulatis, pedunculis ſubunifloris flore brevioribus.* Dillenius calls it, *Convolvulus ſtellatus, periplocæ rotundiori folio.* It grows naturally in Virginia and Carolina. Lacunosa.

Claſs and order in the Linnæan Syſtem. *Ipomœa* is of the claſs and order *Pentandria Monogynia*; and the characters are,

The characters. 1. CALYX is a very ſmall, oblong, permanent perianthium, divided at the top into five ſegments.

2. COROLLA conſiſts of a ſingle infundibuliforme petal. The tube is very long, and nearly cylindrical. The limb is ſpreading, and divided into five oblong plane ſegments.

3. Stamina are five ſubulated filaments, almoſt the length of the corolla, with roundiſh antheræ.

4. Pistillum conſiſts of a roundiſh germen, a filiforme ſtyle the length of the corolla, and a headed ſtigma.

5. Pericarpium is a roundiſh capſule of three cells.

6. Semina. The ſeeds are nearly oval, and a ſingle ſeed is uſually contained in each cell.

This genus is very nearly related to the *Convolvulus*.

CHAP. CLXXXV.

ISATIS, WOAD.

Species. Of this genus are,

1. Small Portugal Woad.
2. Common Dyer's Woad.

Deſcription of Small Portugal Woad, 1. Small Portugal Woad. The ſtalk is upright, branching, and a foot and a half high. The leaves are moderately large, and of a pale-green colour; the radical ones are crenated; but thoſe on the ſtalks are narrow, and arrow-pointed. The flowers come out from the ends and ſides of the branches on downy footſtalks; they are ſmall and of a ſulphur colour, appear in July and Auguſt, and the ſeeds ripen in the autumn.

and Common Dyers Woad. 2. Common Dyer's Woad. The root is thick, white, ſingle, and ſtrikes deep into the ground. The ſtalk is upright, thick, firm, branching, and a yard high. The leaves are very large, long, of a thick conſiſtence, very numerous, and of a bluiſh-green colour. The flowers are produced from the ends and ſides in great plenty; they are of a yellow colour, appear in July, and the ſeeds ripen in September.

The firſt ſpecies is an Annual, and is propagated by ſowing the ſeeds in the autumn ſoon after they are ripe, or the ſpring following. The ſecond is a Biennial, and is the Woad which is cultivated in ſuch amazing plenty in many parts of theſe kingdoms for the dyer's uſe.

Culture. In order to propagate Woad to advantage, the firſt thing to be regarded is a proper ſoil; for without this the profit will not be adequate to the expence. The beſt ſoil for the purpoſe is a newly-broke-up fertile paſture, more inclined to a light or ſandy nature than a ſtrong, ſtiff, or moiſt clay. In ſuch a ſituation Woad will thrive amazingly; and though the expences of ſetting about Woad crops are at firſt very great, yet whoever has capital enough to ſupport it, and patience enough to wait the event, it will not only ſufficiently pay all trouble and expence, but bring in amazing profits to the owner.

The firſt ſtep towards a crop of Woad is to plough the land very deep in January, laying it down very flat, and not ridging it up, as has been recommended, unleſs it be moiſt and wet, for then ſuch land is improper for Woad; nevertheleſs, if the natural ſoil be ſuitable, and the place moiſt and ſpungy, it may be helped by ploughing it up in ridges; and ſuch ridges ought not to be made level by any after-ploughing, but the ſeed ſhould be ſown on them as they lie, the more effectually to drain off the redundant moiſture, and keep the ground in good condition for the Woad.

One ploughing only is ſufficient for Woad; which being effected in January, and well harrowed, the ſeeds ſhould be ſown as ſoon after as the weather will permit. This ſometimes happens early in February, and ſometimes the ground will not be in order for working until after Lady-day. The eaſieſt and leaſt expenſive way of ſowing the ſeeds is by broad-caſt, though the drill method is practiſed by ſome; and after theſe are ſown, they ſhould be well harrowed in, in the manner performed for oats or barley. In about a fortnight after ſowing, if the weather is ſuitable, the plants will appear, at which time weeds will preſent themſelves with the young plants. They may be permitted to grow together for two or three weeks, when the Woad plants ſhould be thinned, hoeing them to within three or four inches diſtance from one another; at the ſame time hoe down and deſtroy all the weeds that are to be met with: And that this may the more effectually be accompliſhed, the work ſhould be performed in dry weather.

Another hoeing muſt again be performed when there is occaſion, and the weeds muſt be deſtroyed and the plants thinned to, in ſome rich ſoils, ſix inches diſtance; though, in general, three or four inches is a proper diſtance for the Woad plants; and if this be well done, and dry weather ſhould continue for a few days after, the weeds will effectually be killed. As a freſh crop of young weeds ariſe, they muſt be carefully taken off by the induſtrious manager, that the ground may lie clean until the Woad is in good order for cropping, which will be when the leaves are full grown and of a good green, before they loſe their colour, ſhrink, or become pale, when both quantity and quality will be diminiſhed. Three or four crops may be gathered in one ſeaſon; but the two firſt are always the beſt, and the remainder is always kept ſeparate, as being of inferior value.

The manner of gathering them is by pulling them up by handfulls, putting them into a ſkip, and then carrying them to a ſhady and ſheltered place to dry. Here they muſt be frequently turned, in order that all may undergo an equal degree of heat. After that they are removed to the mill, where they are reduced to a kind of mortar or paſte, and then made up into round balls weighing about a pound each. The balls are next laid upon hurdles in a covered place, where they can have plenty of air, but no ſun or rain; and in about a fortnight they will be hard enough to be reduced to ſmall roundiſh lumps, by means of wooden moulds prepared for the purpoſe; which lumps are thinly laid upon hurdles to dry, and when they become hard are fit for ſale; but are not uſed before they are ſteeped a conſiderable time in water, in order to break and ſeparate the parts.

A ſufficient number of proper hands are always in readineſs to carry on this buſineſs; they live in huts built upon the ſpot, and when the term for woading is over, they are removed to the land next deſigned for raiſing of Woad.

Woad was formerly a more profitable article than it is at preſent; a great quantity is imported from Holland, Ireland, and the neighbouring parts, where both land and labour being cheap, afford an opportunity of lowering the price.

A ſufficient quantity of plants ſhould always be preſerved for ſeeds. Theſe ought never to be touched, in order to produce ſtrong plants and good ſeeds. One crop of leaves, indeed, may be gathered from the plants; but it is cuſtomary to get two or three crops, which muſt render the plants weaker, and the ſeeds leſs plump and good. The plants flower in July, and the ſeeds will ripen in Auguſt or September, when they ſhould be gathered. In doing this, the ſtalks ſhould be cut down to the ground, be ſpread in rows four or five days to dry, and then ſtacked up in the manner of barley or other grain, in order to be threſhed out in the ſpring, juſt before it is wanted. The Woad plants ſet aſide for ſeed are liable to be deſtroyed by the grub and fly, but if they eſcape will afford amazing increaſe. The produce of one acre is from about 1500 to 2000 lb. or rather more, in weight; but theſe vary, like other huſbandry products, from the nature of the ſeaſon and the goodneſs of the ſoil. Cold ſprings and wet ſummers are very bad for Woad. When the former happens, it will be ſo backward as to be hardly able to afford two gatherings; and when the latter is the caſe, the weeds riſe in ſuch quantities, and the leaves are ſo covered with dirt, that the expence is greatly enhanced, and the value of the Woad impaired. And as weeding is ſo ſtrictly to be obſerved in this article, it is almoſt eſſentially neceſſary to raiſe the Woad on new-broke-up ground; for tho' it may grow on tillage ground, provided it be by dunging brought into a good heart, yet if it has bore but one crop, the quantity of weeds will be ſo multiplied, that every diſcerning Woad-man will by no conſideration be tempted to raiſe his Woad on any other ſoil than a new-broke-up turf.

The ancient Britons are ſaid to have coloured themſelves with the juice of this plant; and it is from them, we are told, that its uſes in dyeing were firſt known.

Titles. Lusitanica.

1. The Small Portugal Woad is titled, *Iſatis foliis radicalibus crenatis; caulinis ſagittatis, pedunculis ſubtomentoſis.* Herman calls it, *Iſatis ſylveſtris minor Luſitanica*; and Tournefort, *Iſatis orientalis maritima caneſcens.* It grows in Spain and Portugal, and in the Eaſt.

Tinctoria.

2. Common Dyer's Woad is, *Iſatis foliis radicalibus crenatis, caulinis ſagittatis, ſiliculis oblongis.* In the *Hortus Cliffort.* it is termed ſimply, *Iſatis.* Caſpar Bauhine calls it, *Iſatis ſylveſtris ſ. anguſtifolia*; alſo, *Iſatis ſativa, ſ. latifolia.* Fuchſius, *Iſatis ſylveſtris*; and Gerard, *Glaſtum ſativum.* It grows naturally in England and moſt of the ſouthern parts of Europe.

Claſs and order in the Linnæan Syſtem.

Iſatis is of the claſs and order *Tetradynamia Siliquoſa*; and the characters are,

The characters.

1. CALYX is a perianthium compoſed of four plane, deciduous, coloured leaves.

2. COROLLA is four oblong, obtuſe, patent petals, having narrow ungues, and placed croſswiſe.

3. STAMINA are ſix erect patent filaments the length of the corolla, of which two are ſomewhat ſhorter than the others, having oblong, lateral antheræ.

4. PISTILLUM conſiſts of an oblong compreſſed germen the length of the ſhorteſt ſtamina, having no ſtyle, but an obtuſe, capitated ſtigma.

5. PERICARPIUM is an oblong, ſpear-ſhaped, obtuſe pod, formed of two valves, and containing one cell.

6. SEMEN. The ſeed is ſingle, and oval.

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CHAP. CLXXXVI.

ISOPYRUM.

THERE is one Annual of this genus, called Fumarioide *Iſopyrum*, or Fumatory-leaved Hellebore.

The plant deſcribed.

The leaves are ſmall, greyiſh, and compoſed of many parts, like thoſe of Fumatory. The ſtalk is upright, three or four inches high, and naked, except near the top, juſt under the flowers, where there is ſituated a circle of narrow leaves. The flowers come out from the tops of the ſtalks; they are ſmall, their petals are acute, greeniſh on the outſide, but yellow within; they appear in April and May, and the ſeeds ripen in June.

Culture.

The culture of this ſpecies is by ſowing the ſeeds as ſoon as they are ripe, and they will then flower the ſpring following; whereas, if they are kept until the ſpring before they are ſowed, they often remain a full year before they make their appearance. After they come up, they will require no trouble, except thinning them where they are too cloſe, and keeping them clean from weeds. When they have once flowered, they will ſoon ſhed their ſeeds, and afford plants enough for a ſucceſſion without further trouble.

Titles. Fumarioides.

This ſpecies is titled, *Iſopyrum ſtipulis ſubulatis, petalis acutis.* Amman calls it, *Helleborus fumariæ foliis.* It grows naturally in Siberia.

CHAP.

CHAP. CLXXXVII.

JUSSIÆA.

IN the courſe of one ſummer may be brought to flower, and perfect their ſeeds,

Species.

1. Hairy *Juſſiæa.*
2. Shrubby *Juſſiæa.*
3. Peruvian *Juſſiæa.*
4. Upright Smooth *Juſſiæa.*

Deſcription of Hairy,

1. Hairy *Juſſiæa.* The ſtalk is ligneous, branching from the ſides, and about three feet high. The leaves are oblong, hairy, and grow alternately. The flowers come out ſingly from the wings of the leaves, on very ſhort footſtalks; they are ſmall, of a yellow colour, appear in July and Auguſt, and the ſeeds ripen in October.

Shrubby,

2. Shrubby *Juſſiæa.* The ſtalk is erect, woody, branching, and three or four feet high. The leaves are oblong, hairy, and grow alternately. The flowers are produced ſingly along the ſides of the branches on footſtalks; they are ſmall, of a yellow colour, appear in July and Auguſt, and the ſeeds ripen in the autumn.

Peruvian,

3. Peruvian *Juſſiæa.* The ſtalk is erect, firm, and four or five feet high. The leaves are large, of a good green, and ſhaped like thoſe of the bay-tree. The flowers come out from the ſides of the branches on leafy footſtalks; they are large and very beautiful, appear in Auguſt and September, and the ſeeds ripen in the Autumn.

and Upright Smooth Juſſiæa.

4. Upright Smooth *Juſſiæa.* This plant is known in many places by the name of Catalonian Jeſſamine. The ſtalk is erect, thick, round, four or five feet high, and very ſmooth. The leaves are oblong, pointed, ſmooth, and grow alternately. The flowers are produced along the ſides of the branches at the wings of the leaves, ſitting cloſe, having no footſtalks; they are moderately large, and of a yellow colour; they appear in July and Auguſt, and the ſeeds ripen in October.

Culture.

The ſeeds of all theſe ſpecies ſhould be ſown in February, on a pretty good hot-bed, where the plants muſt be brought forward, with all the care due to tender ſeedlings, until they are three inches high. Then they muſt be potted ſeparately, and plunged into a ſecond hot-bed; from which they are to be removed into a third, at the ſame time ſhifting the plants into larger pots, and preſerving the mould at the roots. In June a ſhare of them may be ſet abroad, being turned out, with all the mould at the roots, into ſome warm, well-ſheltered place; and in July or Auguſt they will flower, and the ſeeds ripen in October.

The plants left in the bed ſhould have the glaſſes wholly taken off in fine weather; but in heavy rains, or a continuance of moiſt or damp weather, they ſhould be replaced, the more effectually to enſure good ſeeds for a ſucceſſion.

Titles.

1. The firſt ſpecies is titled, *Juſſiæa erecta villoſa, floribus pentapetalis decandris ſeſſilibus.* Sloane calls it, *Lyſimachia lutea erecta non pappoſa major, foliis hirſutis, fructu caryophylloide.* It grows naturally in America. Pubes-cens.

2. The ſecond is, *Juſſiæa erecta villoſa, floribus tetrapetalis octandris pedunculatis.* Van Royen calls it, *Ludwigia capſulis oblongis uncialibus.* Herman, *Lyſimachia Indica non pappoſa, flore luteo minimo, ſiliquis caryophyllum aromaticum æmulantibus*; and Rheede, *Carambu.* It grows naturally in India. Suffru-ticosa.

3. The third is, *Juſſiæa erecta, floribus pentapetalis, pedunculis folioſis.* Fewill calls it, *Onagra laurifolia, flore amplo pentapetalo.* It grows naturally in Peru. Peruvi-ana.

4. The fourth is, *Juſſiæa erecta glabra, floribus tetrapetalis octandris ſeſſilibus.* In the *Hortus Cliffort.* it is termed, *Ludwigia capſulis oblongis.* Plumier calls it, *Onagra Perſicæ foliis amplioribus, parvo flore luteo*; Sloane, *Lyſimachia lutea non pappoſa erecta, foliis glabris, fructu caryophylloide*; Seba, *Jaſminum Catalonicum, flore luteo*; and Rumphius, *Herba vitiliginum.* It grows naturally in America. Erecta.

Claſs and order in the Linnæan Syſtem. The characters.

Juſſiæa is of the claſs and order *Decandria Monogynia*; and the characters are,

1. CALYX is a ſmall permanent perianthium, placed upon the germen, and cut into five oval, acute parts.
2. COROLLA is compoſed of five roundiſh, patent, ſeſſile petals.
3. STAMINA are ten very ſhort filiforme filaments, with roundiſh antheræ.
4. PISTILLUM conſiſts of an oblong germen, ſituated below the calyx, a filiforme ſtyle, and a capitated plane ſtigma, marked with five ſtripes.
5. PERICARPIUM is of an oblong figure, of a thickiſh ſubſtance, is crowned with the calyx, and opens longitudinally.
6. SEMINA. The ſeeds are many, and diſpoſed in ſeries.

CHAP. CLXXXVIII.

JUSTICIA.

OF this genus there is a tender Annual, called, Hexangular *Juſticia*.

The plant deſcribed.

The ſtalk has ſix angles; it is upright, ſmooth, divides into many ſlender, hexangular branches, and grows to be three feet high. The leaves are oval, ſmooth, entire, and grow oppoſite by pairs at the joints. The flowers are produced in ſpikes from the ends of the branches; they are of a fine vermilion colour, appear in July and Auguſt, and the ſeeds ripen in the autumn.

Variety.

There is a variety of this ſpecies with yellow flowers.

Culture.

This plant is propagated by ſowing the ſeeds in a good hotbed in March. When the plants are about three inches high, they ſhould be planted ſeparately in pots filled with light, rich, garden-mould, and then plunged into a hot-bed of tanner's bark, if there is that conveniency; if not, they may be ſet on a common hot-bed, filling up the interſtices with any mould that can more readily be procured. They muſt be watered and kept ſhaded at firſt, and afterwards have more air; but they muſt be conſtantly kept in the hot-bed, raiſing the glaſſes as they advance in height, allowing them frequent watering, and plenty of free air, eſpecially if the weather is hot. If they are ſet on a common hot-bed, the heat ſhould be renewed by new-lining the bed, when you find it abates, or a third bed ſhould be prepared for their reception; for they muſt be kept forcing, in order to flower early, and perfect their ſeeds; and if they meet with no check, they will flower in July and Auguſt, and the ſeeds ripen in the autumn.

Titles.

Sexangularis.

This ſpecies is titled, *Juſticia foliis ovatis integerrimis, bracteis cuneiformibus, ramis ſexangularibus.* Amman calls it, *Juſticia annua, hexangulari caule, foliis circææ conjugatis, flore miniato*; and Plukenet, *Euphraſia, alſines majori folio, flore galeato pallidè luteo, Jamaicenſis.* It grows naturally in Jamaica and Vera Cruz.

Claſs and order in the Linnæan Syſtem.

Juſticia is of the claſs and order *Diandria Monogynia*; and the characters are,

The characters.

1. CALYX is a ſmall perianthium, divided into five narrow, acute, erect parts.

2. COROLLA is one ringent petal. The tube is gibbous. The limb is bilabiated. The upper lip is oblong, and indented at the top. The lower lip is the ſame length as the upper, trifid, and reflexed.

3. STAMINA are two awl-ſhaped filaments hid under the upper lip, having erect antheræ, which are bifid at the baſe.

4. PISTILLUM conſiſts of a turbinated germen, a filiforme ſtyle the length and ſituation of the ſtamina, and a ſimple ſtigma.

5. PERICARPIUM is an oblong, obtuſe, bilocular capſule, formed of two valves, and which open with an elaſtic force for the diſcharge of the ſeeds when ripe.

6. SEMINA. The ſeeds are roundiſh.

CHAP. CLXXXIX.

KNAUTIA.

THIS genus affords two ſhort-lived ſpecies, called,

Species.

1. Oriental *Knautia.*
2. Undivided-leaved *Knautia.*

Deſcription of Oriental Knautia.

1. Oriental *Knautia.* The leaves are pinnatifid, long, of a pale-green colour, and ſtand in cluſters on the crown of the root. The ſtalks are round, ſlender, hairy, two or three feet high, and adorned with ſmaller, pale coloured, hairy, pinnatifid leaves, growing oppoſite to each other at the joints. The flowers are produced in largiſh compreſſed heads from the ends and ſides of the branches; they are of a beautiful red colour, appear in July and Auguſt, and the ſeeds ripen in September.

Varieties

There is a variety of this ſpecies with blue, and another with purple flowers.

Undivided-leaved Knautia deſcribed.

2. Undivided-leaved *Knautia.* The ſtalk is upright, firm, thick, hairy, and two or three feet high. The leaves are ſpear-ſhaped, long, hairy, and the lower ones form a conſiderable large bunch at the crown of the root; theſe are ſerrated on the edges, but on the ſtalks are entire. The flowers are produced in large compreſſed heads from the ends of the branches; they are of a delightful red colour, appear in July and Auguſt, and the ſeeds ripen in September.

Culture.

The firſt ſort is raiſed by ſowing the ſeeds on a hot-bed in the ſpring; this will ſoon bring the ſeeds up; and about the middle of May they will be fit to plant out. When this is done, a moiſt day ſhould be choſe for the purpoſe, and a ball of earth be preſerved to each root: They will readily take to the ground, and flower ſtrong by the end of July.

They may be alſo ſown in beds of common mould in the ſpring, but ſuch plants will flower late in the ſummer; and if a wet ſeaſon ſhould happen in the autumn, the ſeeds rarely ripen.

In the autumn alſo the ſeeds may be ſown, ſoon after they are ripe, and theſe plants will ſtand the winter, flower early, and be certain of affording good ſeeds in plenty the ſummer following; which, if permitted to ſcatter, will grow, and afford plants for a ſucceſſion without further trouble.

The ſecond ſort is a Biennial, and may be raiſed by ſowing the ſeeds in April or May, in the places where they are to remain. When they come up, they muſt be thinned where they are too cloſe, kept clean from weeds all ſummer, and by the autumn they will be good plants, and ſhoot up ſtrong for flowering the ſummer following.

Titles.

Orientalis.

1. The firſt ſpecies is titled ſimply, *Knautia.* Boerhaave calls it, *Lychni-ſcabioſa, flore rubro, annua*; and Vaillant, *Scabioſa orientalis, caryophylli flore.* It grows naturally in the Eaſt.

Propontica.

2. The ſecond ſpecies is titled, *Knautia foliis ſuperioribus lanceolatis indiviſis corollis calyce æqualibus.* Tilli calls it, *Scabioſa orientalis, foliis ſuperioribus integris, flore parvo, purpureo calyce longo gracili*; and Tournefort, *Scabioſa orientalis villoſa, flore ſuaverubente, fructu pulchro oblongo.* It grows naturally in the Eaſt.

Claſs and order in the Linnæan Syſtem. The characters.

Knautia is of the claſs and order *Tetrandria Monogynia*; and the characters are,

1. CALYX. The general perianthium is oblong, cylindrical, erect, contains the flowers digeſted in a ſimple orbicular ſeries, and is compoſed of numerous awl-ſhaped ſegments, anſwering to the number of florets it contains. The proper perianthium is ſmall, and crowns the germen.

2. COROLLA. The general flower is equal; the florets unequal; each has one petal, the tube of which is the length of the calyx, and the limb is divided into four unequal ſegments, the exterior one being of an oval figure, and the largeſt.

3. STAMINA are four filaments inſerted in the receptacle, and longer than the tube of the flower, having oblong incumbent antheræ.

4. PISTILLUM conſiſts of a germen ſituated below the calyx, a filiforme ſtyle the length of the ſtamina, and a thickiſh bifid ſtigma.

5. PERICARPIUM. There is none.

6. SEMINA. The ſeeds are ſingle, ſquare, and hairy at the top.

The receptacle is plane, naked, and very ſmall.

C H A P. CXC.

LAGOECIA, WILD or BASTARD CUMIN.

THERE is only one ſpecies of this genus, called, Wild or Baſtard Cumin.

The plant deſcribed.

The ſtalk is round, hollow, weak, branching, and about a foot high. The leaves are pinnated, and the folioles are oblong, broad, ſerrated, and of a duſky-green colour. The flowers come out from the ends of the branches in roundiſh heads; they are of a greeniſh-yellow colour, inclining to a white; they appear in July, and the ſeeds ripen in Auguſt.

Titles.

This plant is propagated by ſowing the ſeeds, ſoon after they are ripe, in almoſt any ſoil or ſituation. When they come up they will require no trouble, except thinning them where they are too cloſe, and keeping them clean from weeds; and after they have flowered, and the ſeeds ſcattered, plants enough for a ſucceſſion will ariſe without further trouble.

Titles.

Cuminoides.

This being the only ſpecies belonging to the genus, it is named ſimply, *Lagoecia.* Cammerarius calls it, *Cuminum ſylveſtre*; and Caſpar Bauhine, *Cuminum ſylveſtre, capitulis globoſis.* It grows naturally in Crete, Lyſia, and Galatia.

Claſs and order in the Linnæan Syſtem. The characters.

Lagoecia is of the claſs and order *Pentandria Monogynia*; and the characters are,

1. CALYX. The general involucrum is compoſed of eight pennated, indented, ciliated, reflexed leaves.

The proper involucrum conſiſts of four narrow pennated leaves.

The perianthium is formed of five narrow, multifid leaves, and is ſituated over the germen.

2. COROLLA is five ſhort bicorned petals.

3. STAMINA are five capillary filaments the length of the corolla, having roundiſh antheræ.

4. PISTILLUM conſiſts of a roundiſh germen below the perianthium, a ſtyle the length of the ſtamina, and a ſimple ſtigma.

5. PERICARPIUM. There is none.

6. SEMEN. The ſeed is ſingle, oval, oblong, and crowned by the perianthium.

CHAP.

CHAP. CXCI.

LAGURUS.

Species.

THIS genus conſiſts of two ſpecies, viz.
1. Oval-ſpiked *Lagurus.*
2. Cylindrical *Lagurus.*

Oval-ſpiked,

1. Oval-ſpiked *Lagurus.* The root conſiſts of a multitude of fine white fibres. The leaves are eight or ten inches long, narrow, pointed, of a pale-green colour, ſoft, and hairy. The ſtalk is round, jointed, hollow, two feet high, and poſſeſſed of leaves growing ſingly at the joints, and ſurrounding it with their baſe. The flowers are produced from the tops of the ſtalks in thick, ſhort, roundiſh, oval ſpikes; they are whitiſh, and have very long ariſtæ; they appear in July and Auguſt, and the ſeeds ripen in Auguſt and September.

and Cylindrical Lagurus deſcribed.

2. Cylindrical *Lagurus.* The radical leaves are moderately long, graſſy, ſoft, and downy. The ſtalks are round, hollow, jointed, and two or three feet high. The flowers are produced from the tops of the ſtalks in long, cylindrical, downy ſpikes; they are of a purple colour, have no ariſtæ, and ſhew themſelves about the ſame time with the former.

Variety.

There is a variety of this ſpecies with white downy ſpikes of flowers.

Culture.

Whoever is inclined to propagate theſe graſſes, may effect it by ſowing the ſeeds in the ſpring, in beds of light ſandy earth. If the place be warm and well-ſheltered, they may be ſown in the autumn, ſoon after they are ripe, and they will flower earlier the ſummer following. After they come up they will require no trouble, except thinning them where they are too cloſe, and keeping them clean from weeds.

Titles.

1. The firſt ſpecies is titled, *Lagurus ſpicâ ovatâ ariſtatâ.* Caſpar Bauhine calls it, *Gramen alopecuroides, ſpicâ rotundiore*; and Scheuchzer, *Gramen ſpicatum tomentoſum longiſſimis ariſtis donatum* 1. It grows naturally in Italy, Gaul, Sicily, and Luſitania.

Ovatus.

2. The ſecond ſpecies is titled, *Lagurus ſpicâ cylindricâ muticâ.* John Bauhine calls it, *Gramen alopecuros, ſpicâ longâ tomentoſâ candicante*; Caſpar Bauhine, *Gramen tomentoſum ſpicatum*; Dalechamp, *Gramen tomentoſum alopecuros*; and Scheuchzer, *Gramen tomentoſum Creticum ſpicatum ſpicâ purpureâ.* It grows naturally in Crete, and the ſouth of France.

Cylindri=cus.

Claſs and order in the Linnæan Syſtem. The characters.

Lagurus is of the claſs and order *Triandria Digynia*; and the characters are,

1. CALYX is a glume compoſed of two valves, and containing one flower. The valves are long, narrow, thin, ſpreading, and each terminates in a briſtle elegantly pinnated with fine hairs.

2. COROLLA is a glume of two valves, which are of a thicker ſubſtance than the calyx. The exterior valve is the longeſt, and terminated by two ſmall ſtraight ariſtæ, having alſo on the middle of the back a third ariſta, which is twiſted and reflexed. The interior valve is ſmall, and acuminated.

3. STAMINA are three capillary filaments, with oblong antheræ.

4. PISTILLUM conſiſts of a turbinated germen, and two hairy briſtly ſtyles, with ſimple ſtigmas.

5. PERICARPIUM. There is none. The corolla grows to the ſeed.

6. SEMEN. The ſeed is ſingle, oblong, covered, and ariſtated.

* * *

CHAP. CXCII.

LAMIUM, DEAD NETTLE, or ARCHANGEL.

Species.

THE Annuals of this genus are,
1. Red Archangel, or Dead Nettle.
2. Great Henbit.

Red Archangel,

1. Red Archangel, or Dead Nettle. This ſpecies is a weed in a garden, and is mentioned chiefly to inform the Gardener what it is, to give him the botanic titles, and aſſure him that the leaves and flowers have great virtues, and are uſed variouſly for many diſorders. The ſtalks are ſquare, hollow, branching, and ſix or eight inches high. The leaves are heart-ſhaped, obtuſe, rough, of a bad green colour, grow oppoſite by pairs, and the lower ones have long footſtalks, but thoſe near the top of the plant ſit cloſe. The flowers are produced in whorls round the upper parts of the ſtalks, at the joints; they are of a pale-purple colour, appear in March, and continue in ſucceſſion on different plants the greateſt part of the year.

and Great Henbit deſcribed.

2. Great Henbit. The ſtalks are weak, ſquare, hollow, jointed, partly procumbent, and about a foot long. The leaves are heart-ſhaped, roundiſh, rough, grow oppoſite, and embrace the ſtalk with their baſe. The flowers are produced in whorls

from the wings of the leaves at the joints; they are of a blueiſh-purple colour, and ſhew themſelves on different plants at almoſt all times of the year.

Culture.

Theſe plants are propagated by ſowing the ſeeds, ſoon after they are ripe, in any ſoil or ſituation. When they have once flowered, the ſeeds ſcattering will come up at different times, and afford plants, which will cauſe a ſucceſſion of bloom from March to the end of ſummer. The firſt ſort is extirpated all gardens, but the ſecond is preſerved as an Annual in collections of plants.

Titles.

Purpureus.

1. Red Archangel, or Dead Nettle, is titled, *Lamium foliis cordatis obtuſis petiolatis.* Caſpar Bauhine calls it, *Lamium purpureum fœtidum, folio ſubrotundo*; Dodonæus, *Urtica iners altera*; Gerard, *Lamium rubrum*; and Parkinſon, *Lamium vulgare, folio ſubrotundo, flore rubro.* It grows naturally in fields, gardens, and way-ſides in England, and moſt parts of Europe.

Amplexicaule.

2. Great Henbit is, *Lamium foliis floralibus ſeſſilibus amplexicaulibus obtuſis.* Caſpar Bauhine calls it, *Lamium, folio caulem ambiente, minus & majus*; Lobel, *Morſus gallinæ folio hederulæ alterum*; Gerard, *Alſine hederula altera*; and Parkinſon, *Alſine hederulæ folio major.* It grows naturally in cultivated fields in England, and moſt parts of Europe.

CHAP. CXCIII.

LANTANA, AMERICAN *VIBURNUM.*

THERE is one Annual of this genus, called, Annual *Lantana.*

This plant deſcribed.

The ſtalk is upright, firm, divides into a few erect branches, and grows to about two or three feet high. The leaves are oval, oblong, pointed, ſerrated, a little woolly underneath, and grow oppoſite to each other at the joints. The flowers come out in thick oblong ſpikes, uſually riſing by pairs from the joints; they are large, and of a purple colour; they appear in July and Auguſt, and are ſucceeded by large, purple-coloured, eſculent berries, which ripen in the autumn.

Culture.

This plant is raiſed by ſowing the ſeeds on a hot-bed in the ſpring; and when the plants are fit to remove, each muſt be ſet in a ſeparate pot, and then plunged up to the rims in a bark-bed. They muſt be ſhaded and watered at firſt; and when they are in a good growing ſtate, and the weather is warm, they muſt have more air in proportion. As the plants advance in height, the glaſſes muſt be raiſed, for the plants muſt not be taken out of the bed; and watering as often as there ſhall be occaſion, muſt be afforded them. With this management they will flower by the end of July, or early in Auguſt, and the berries will be ripe in the autumn, ſoon after which the plants die.

Titles.

Annua.

This ſpecies is titled, *Lantana foliis oppoſitis, caule inermi, ſpicis oblongis.* Sloane calls it, *Periclymenum rectum humilius, ſalviæ folio rugoſiore, flore purpureo, fructu oblongo eſculento purpureo.* It grows naturally in the warmer parts of America.

Claſs and order in the Linnæan ſyſtem.

Lantana is of the claſs and order *Didynamia Angioſpermia*; and the characters are,

The characters.

1. CALYX is a very ſhort, monophyllous, tubular perianthium, ſlightly indented in four parts at the top.

2. COROLLA is one unequal petal. The tube is cylindrical, ſlender, longer than the calyx, and ſomewhat oblique. The limb is plane, and unequally divided into four obtuſe ſegments.

3. STAMINA are four very ſlender filaments ſituated in the middle of the tube, of which two are ſomewhat longer than the others, having roundiſh antheræ.

4. PISTILLUM conſiſts of a roundiſh germen, a filiforme ſtyle longer than the ſtamina, and a refracted, uncinated ſtigma.

5. PERICARPIUM is a roundiſh drupe, containing one cell.

6. SEMEN is a roundiſh pyramidical nut, containing two cells.

CHAP.

CHAP. CXCIV.

LAPSANA, NIPPLE-WORT.

THERE are four ſpecies of this genus, which are of no eſtimation with the Floriſt. The love of variety, however, will do great things with many; and the Botaniſt in theſe as well as the moſt gaudy flowers, may find ſatisfaction in his obſervations. Such, therefore, as are diſpoſed to take in every thing, may for this purpoſe have,

Species.

1. The Common Nipple-wort.
2. The Warted Cichory.
3. Stellated Nipple-wort.
4. *Rhagadiolus*, or Lyrated *Lapſana*.

Deſcription of the Common Nipple-wort,

1. The Common Nipple-wort is a weed growing common by highways and in hedges in moſt parts of England, and is never admitted into gardens. The leaves are deeply cut on their ſides, and are rough, and hairy. The ſtalks are ſlender, and branching. From theſe iſſue the ſmaller ſtalks that produce the flowers, and theſe branch out in numerous others, each of which is terminated by a ſingle flower. This is ſmall and yellow; and one or other of the plants may be found in blow from May to September, by the ſides of paths, and in hedges; but they are always extirpated from gardens whenever they make their appearance.

Warted Cichory,

2. Warted Cichory. This plant not being a native of our own country, has a greater right to figure in our catalogue of garden-plants, though it is little eſteemed as a flower. The radical leaves are lyre-ſhaped, of a fine green colour, and acutely cut, like thoſe of Endive. The ſtalk is upright, ſtriated, forked, and garniſhed with leaves of a ſagittated figure; their edges are indented, and they embrace the ſtalk with their baſe. The ſtalk near the top divides into ſeveral ſmaller branches or peduncles, each of which ſupports a ſingle flower. They are ſmall, and of a yellow colour; they will be in blow and continue flowering moſt part of the ſummer.

Stellated Nipple-wort,

3. Stellated Nipple-wort. The leaves are ſpear-ſhaped, and the edges undivided. The ſtalk will riſe to a foot and a half in height; it is round, ſlender, branching, a little hairy, and garniſhed with a few ſmall, lanceolated, entire leaves. The flowers are yellow, ſmall, numerous, and will be in blow during moſt of the ſummer months.

and Lyrated Lapſana.

4. *Rhagadiolus*, or Lyrated *Lapſana*. The leaves are harp-ſhaped, and much reſemble thoſe of the Common Nipple-wort. The ſtalk is branching, and garniſhed with a few leaves. The flowers are ſmall and numerous, and ſhew themſelves the greateſt part of the ſummer.

Culture.

The culture of theſe plants is ſo eaſy, that the greateſt trouble will be, after having obtained a few plants, to keep them from over-running the garden; for they will ſhed their ſeeds, which will come up like weeds. Firſt of all, therefore, ſow a few ſeeds of each ſort in the autumn or ſpring, and after they have flowered, and freſh plants ariſe from their ſcattered ſeeds, reduce them to any deſired number.

Titles.

Communis.

1. Common Nipple-wort is titled, *Lapſana calycibus fructus angulatis, pedunculis tenuibus ramoſiſſimis.* Dodonæus calls it, *Lampſana*; Caſpar Bauhine, *Soncho affinis Lapſana domeſtica.* It grows common in moſt parts of Europe.

Zacintha.

2. Warted Cichory is, *Lapſana calycibus fructus toruloſis depreſſis obtuſis ſeſſilibus.* Van Royen calls it, *Lapſana calycibus fructus ſubrotundis angulatis, pedunculis incraſſatis, floribus erectis*; Caſpar Bauhine, *Chondrilla verrucaria, foliis cichorei viridibus*; Cluſius, *Cichorium verrucatum, zacintha.* It grows naturally in Italy, and ſeveral parts of the Eaſt.

Stellata.

3. Stellated Nipple-wort is, *Lapſana calycibus fructus undique patentibus, radiis ſubulatis, foliis caulinis lanceolatis indiviſis.* Caſpar Bauhine calls it, *Hieracium ſiliquâ falcatâ*; and John Bauhine, *Hieracium ſtellatum.* It grows naturally at Montpelier and Bononia.

Rhagadiolus.

4. Lyrated *Lapſana* is, *Lapſana calycibus fructus undique patentibus: radiis ſubulatis, foliis lyratis.* Ray calls it, *Hieracium falcatum alterum*; Tournefort, *Rhagadiolus Lapſanæ foliis*; John Bauhine, *Rhagadiolus edulis hieraciis affinis.* It grows naturally in the Eaſt.

Claſs and order in the Linnæan Syſtem.

Lapſana is of the claſs and order *Syngeneſia Polygamia Æqualis*; and the characters are,

The characters.

1. Calyx is calyculated, oval, and angular, and is compoſed of ſeveral narrow, canaliculated, hollow, acute ſcales, placed over each other.

2. Corolla. The compound flower is imbricated and uniform; each floret conſiſts of a ſingle, ligulated, truncated petal, indented in five parts at the top.

3. Stamina are five very ſhort capillary filaments, with cylindrical, tubulous antheræ.

4. Pistillum conſiſts of an oblongiſh germen, a filiforme ſtyle the length of the ſtamina, and a bifid, reflexed ſtigma.

5. Pericarpium. There is none.

6. Semina. The ſeeds are ſolitary, oblong, cylindrical, and trigonal. The rays are naked and plane.

CHAP. CXCV.

LATHYRUS, CHICKLING VETCH.

THE principal Annual ſpecies of this genus is,

Species. 1. The Sweet-ſcented Pea.

Varieties. There are of this ſpecies three remarkable varieties; viz.

The Purple Sweet Pea.
The Painted-lady Sweet Pea.
The White Sweet Pea.

Theſe uſually retain their differences from ſeeds, and are admirably formed to contribute to the perfection of a flower-garden, which is deſired to be brought to that ſtate in the courſe of a few months.

Deſcription of Sweet-ſcented Pea. The ſtalk of the Sweet-ſcented Pea is climbing, and about a yard high. The leaves are of an oblong, oval figure, and from theſe come out the claſpers. The flowers are produced from the joints of the ſtalks on long footſtalks; two of them uſually grow together, and they are finely ſcented. The vexillum, wings, and keel, are of different colours; for when the former is purple, the latter are of a light-blue. The other ſorts alſo vary in like manner. The White variety is the leaſt common, and yet it is the leaſt eſteemed: It may be made to be in blow all ſummer, and the flowers are ſucceeded by oblong, hairy pods, containing the ſeeds.

Culture. The ſeeds of theſe plants ſhould be ſown at different times. The firſt ſowing ſhould be in the autumn, and the plants will flower early the ſummer following. The next ſowing ſhould be in the ſpring, when the flowers will be in perfection as the others go off. The third ſowing ſhould be in the beginning of May, and the flowers will be then continued through the autumn until the froſt ſtops them.

The plants may be diſpoſed in patches all over the garden; and being ſupported by ſticks about a yard high, they will grow to a proper ſize. The flowers being large and numerous, the ſhow they make will be ſpecious, and the fragrance they afford ſtill more agreeable.

The other ſpecies of leſs note are,

Species.
2. Yellow Broad-leaved Chickling Vetch.
3. Tangier Chickling Vetch, called Scarlet Lupine.
4. Spaniſh Chickling Vetch.
5. Chickling Vetch of Paris.
6. Sweet Vetch.
7. Cultivated Chickling Vetch.
8. Syrian Chickling Vetch.
9. *Aphaca*, or Yellow Vetchling.

Deſcription of Yellow Broad-leaved, 2. Yellow Broad-leaved Chickling Vetch will climb upon buſhes to the height of about ſix feet. The ſtalk has wings or broad membranes running from joint to joint. The leaves are ſword-ſhaped, and are terminated by claſpers. The flowers are produced from the joints of the ſtalks on long footſtalks; each footſtalk ſupports two flowers only; they are of a pale-yellow colour, and are ſucceeded by long, taper, ſmooth pods, containing the ſeeds.

Tangier, 3. Tangier Chickling Vetch. This ſpecies falſely goes among Gardeners by the name of Scarlet Lupine. It will climb to the height of about five feet. The leaves are ſpear-ſhaped, veined, and terminated by claſpers. The flowers are produced from the joints on ſhort footſtalks; their number is two on a ſtalk; they are large; the vexillum is of a reddiſh-purple colour; the carina and alæ are paler, though of a bright-red colour; and they are ſucceeded by long, jointed pods, full of large ſeeds.

and Spaniſh Chickling Vetch. 4. Spaniſh Chickling Vetch. This is a very beautiful ſpecies, and worthy of a place in any garden. The ſtalk will be about a yard long, is climbing, and garniſhed with leaves compoſed of ſeveral ſpear-ſhaped lobes, that grow alternately along the midrib, which is terminated by long claſpers. The flowers are produced from the joints on footſtalks, about half a foot long. Sometimes there will be one, but uſually a ſtalk will ſupport two flowers; they are large; the vexillum is of a bright purple or red colour, and the wings and keel are white; they flower in June and July, and are ſucceeded by long articulated pods, containing the ſeeds.

Variety. There is a variety of this ſpecies that ſeldom grows higher than two feet, and is a very pretty plant.

Chickling Vetch of Paris deſcribed. 5. Chickling Vetch of Paris. This ſpecies will riſe to about two feet high. The ſtalk is ſlender, and garniſhed with leaves compoſed of ſeveral narrow lobes, that grow alternately on the midrib, which produces the claſpers. The flowers grow ſingly on moderately long footſtalks; they are of a blue colour, and are ſucceeded by long, taper pods full of ſeeds.

Variety. There is a variety of this ſpecies with a variable flower.

Sweet Vetch, 6. Sweet Vetch hath a ſlender, climbing ſtalk, about two feet long. The leaves are compoſed of two narrow lobes, between which come out the claſpers. The flowers are of a blue colour; they grow ſingly on footſtalks from the joints; and are ſucceeded by large, oval, compreſſed pods, with a double membrane or wing running lengthways down the back.

and Cultivate Chickling Vetch deſcribed. 7. Cultivated Chickling Vetch hath a ſlender, membranaceous, climbing ſtalk, about a foot long. The leaves are compoſed of two narrow, ſpear-ſhaped lobes, from which the claſpers proceed. The flowers grow ſingly on footſtalks; they are of a red or purple colour, and are ſucceeded by large channelled pods, containing the ſeeds.

Uſes of it. The ſeeds of this plant are excellent for feeding of poultry, on which account they are cultivated in many places in great plenty.

Syrian Chickling Vetch, 8. Syrian Chickling Vetch. This is a low, trailing plant. The leaves are compoſed of two lobes, and from the midrib iſſues a ſingle tendril. The flowers are produced ſingly on footſtalks; they are of a pale-purple colour; and after they are fallen the pods ſtrike into the ground, and the ſeeds are there ripened.

and Yellow Vetchling deſcribed. 9. *Aphaca*, or Yellow Vetchling. This ſpecies is now and-then found growing among our corn, and is a plant that ſeldom finds a place in gardens. It hath a ſlender, climbing ſtalk. The leaves are produced from the joints, and ſhaped like thoſe of the Leſſer Bindweed. The tendrils grow from the joints, and have no leaves. The flowers are produced ſingly on footſtalks; their colour is yellow; and they are ſucceeded by ſhort pods, each containing two or three round ſeeds.

All theſe ſorts are uſually raiſed by ſowing the ſeeds in the ſpring; but the beſt way will be to ſow them, or at leaſt a ſhare of them, in the autumn; the plants will then flower earlier the ſummer following, and you will be more certain of good ſeeds for a ſucceſſion.

Titles. 1. The Sweet-ſcented Pea is titled, *Lathyrus pedunculis bifloris, cirrhis diphyllis, foliis ovato-oblongis, leguminibus hirſutis.* Commeline calls it, *Lathyrus diſtoplatyphyllos hirſutus mollis, magno et peramæno flore odoro*; Burman, *Lathyrus Zelanicus, odorato flore amæno ex albo et rubro vario.* This laſt variety abounds chiefly in Ceylon, the other in Sicily. Odoratus

Annuus. 2 Yellow Broad-leaved Chickling Vetch is, *Lathyrus pedunculis bifloris, cirrhis diphyllis: foliolis enſiformibus, leguminibus glabris, ſtipulis bipartitis.* Herman calls it, *Lathyrus Hiſpanicus, flore luteo*; Magnol, *Lathyrus luteus latifolius*; and John Bauhine, *Lathyri ſpecies lutea.* It grows naturally in Spain, and the South of France.

Tingitanus. 3. Tangier Chickling Vetch, or Scarlet Lupine, is, *Lathyrus pedunculis bifloris, cirrhis diphyllis: foliolis alternis lanceolatis glabris, ſtipulis lunatis.* Moriſon calls it, *Lathyrus Tingitanus, ſiliquis orobi, flore amplo ruberrimo.* It grows naturally in Mauritania.

Clymenum. 4. Spaniſh Chickling Vetch is, *Lathyrus pedunculis bifloris, cirrhis polyphyllis, ſtipulis dentatis.* Moriſon calls it, *Lathyrus vicioides, vexillo rubro, labialibus petalis roſtrum ambientibus cæruleis*; Tournefort, *Clymenum Hiſpanicum, flore vario, ſiliquâ planâ.* It grows naturally in Mauritania and the Eaſt.

5. Paris Chickling Vetch is, *Lathyrus pedunculis unifloris, cirrhis polyphyllis, ſtipulis lanceolatis.* Tournefort calls it, *Clymenum Pariſienſe flore cæruleo.* It grows naturally about Paris.

6. Sweet Vetch is, *Lathyrus pedunculis unifloris, cirrhis diphyllis tetraphylliſque, leguminibus ovatis compreſſis dorſo bimarginatis.* Herman calls it, *Lathyrus annuus, flore cæruleo, ochri ſiliquâ*; Caſpar Bauhine, *Lathyrus ſativus, flore fructuque albo*; and Dodonæus, *Lathyrus ſive cicercula.* It grows naturally in France and Spain. Sativus.

7. Cultivated Chickling Vetch is, *Lathyrus pedunculis unifloris, cirrhis diphyllis, leguminibus ovatis compreſſis dorſo canaliculatis.* Sauvages calls it, *Lathyrus pedunculis unifloris, cirrhis diphyllis, foliis lanceolato-linearibus, internodiis membranaceis*; Caſpar Bauhine, *Lathyrus ſativus flore purpureo*; and Dodonæus, *Aracus ſive cicera.* It is a native of Spain. Cicera.

8. Syrian Chickling Vetch is, *Lathyrus pedunculis unifloris calyce longioribus, cirrhis diphyllis ſimpliciſſimis.* In the *Hortus Cliffort.* it is termed, *Lathyrus pedunculis unifloris, cirrhis diphyllis radicibus etiam ſub terrâ fructificantibus.* Caſpar Bauhine calls it, *Viciæ ſimilis ſupra et infra terram ſiliquas gerens*; and John Bauhine, *Arachidna ſive arachoides honorii belli.* It grows naturally in Syria. Amphicarpos.

9. *Aphaca*, or Yellow Vetchling, is, *Lathyrus pedunculis unifloris, cirrhis aphyllis, ſtipulis ſagittato-cordatis.* In the *Hortus Cliffort.* it is termed, *Lathyrus cirrhis aphyllis.* Caſpar Bauhine calls it, *Vicia lutea, foliis convolvuli minoris*; and Lobel, *Aphaca.* It grows naturally in England, Italy, France, and Switzerland. Aphaca.

CHAP. CXCVI.

LAVANDULA, LAVENDER.

THE ſpecies of this genus proper for this place is called, the Jagged-leaved Lavender.

Of this there are ſeveral varieties; ſuch as,

Varieties.

The Common Cut-leaved Lavender.
The Long Jagged-leaved Lavender.
The White-flowered Jagged-leaved Lavender.
The Canary Sea Lavender.

Theſe were all accidentally obtained from the ſeeds of the Common Jagged-leaved Lavender, and they retain their differences tolerably well, if care is taken in preſerving the ſeeds ſeparate.

This plant deſcribed. The original plant riſes with an upright, ſquare, branching ſtalk to about a yard high. The leaves are cut down to the midrib, and the ſegments again are divided into others; ſo that the whole leaf is doubly pinnatifid: They are hoary, finely ſcented, and placed oppoſite to each other. The flowers are formed in a ſpike at the top of a long, naked, ſquare footſtalk; their colour is blue; they come out in July; and the ſeeds ripen in the autumn.

The ſecond variety uſually arrives to near four feet high, and has longer leaves, cut into narrower ſegments than the other. The White-flowering ſort differs in few reſpects except the colour of the flowers; and the Canary kind is remarkable for its fine double ſpikes of a clear ſky-blue colour.

Culture. All the ſorts are eaſily propagated by ſowing the ſeeds on a moderate hotbed in the ſpring. They muſt be uſed as hardy as poſſible, by allowing them as much air as the weather will permit, and beſtowing on them frequent waterings. By the middle of May they will be grown to be tolerable ſtrong plants; about which time, on the firſt moiſt day that happens, let them be taken up with a ball of earth to the roots, and planted out where they are to remain.

The firſt ſort is tolerably hardy, and will ſhed its ſeeds, which will come up in the ſpring, and continue the ſucceſſion without trouble; but the two laſt varieties are rather more tender, and do not always perfect their ſeeds with us, unleſs more care is taken in bringing the plants forwarder in the ſpring.

All of them are naturally Biennials; ſo that if you have the conveniency of a green-houſe to preſerve them through the winter, the beſt way will be to ſow the ſeeds of the laſt ſorts in May, in a ſhady border, and, when they are of ſize to remove, to plant them in pots provided for the purpoſe. The pots ſhould be then plunged up to the rims in the common mould, and the plants well watered; and the repetition of the watering ſhould be made as often as dry weather renders it neceſſary. In this ſituation they may remain until the end of October, when they ſhould be removed into the green-houſe for their winter habitation. In the ſpring, let them be turned out of the pots, with the mould at their roots, into the places where they are deſigned to remain.

Theſe plants are admired by many perſons for their agreeable odour, their beautifully-divided leaves, and the fine ſpikes of flowers they produce.

Titles. Multifida This ſpecies is titled, *Lavandula foliis duplicato-pinnatifidis.* Caſpar Bauhine calls it, *Lavandula folio diſſecto*; Cluſius, *Lavandula multifido folio*; Tournefort, *Lavandula folio longiore tenuius & elegantius diſſecto*; and Plukenet, *Lavandula Canarienſis maritima, ſpicâ multiplici cæruleâ.* It grows naturally in the South of France, and in the Canary Iſlands.

Claſs and order in the Linnæan Syſtem. The characters. *Lavandula* is of the claſs and order *Didynamia Gymnoſpermia*; and the characters are,

1. Calyx is an oval, monophyllous perianthium, ſlightly indented at the mouth, and ſupported by a bractea.

2. Corolla is a ringent, reſupinated petal. The tube is cylindrical, and longer than the calyx. The limb is patent. The upper lip is large, bifid, and open. The lower lip is cut into three ſegments that are nearly equal.

3. Stamina are four ſhort, deflexed filaments, ſituated within the tube of the corolla, of which two are ſhorter than the others, having ſmall antheræ.

4. Pistillum conſiſts of a germen divided into four parts, a filiforme ſtyle the length of the tube, and an obtuſe, indented ſtigma.

5. Pericarpium. There is none. The ſeeds are contained in the calyx.

6. Semina. The ſeeds are oval, and four in number.

CHAP. CXCVII.

LAVATERA.

THERE are two or three real ſpecies, and more varieties, of the *Lavatera*, that claim a place in the ſhow of Annuals. They are well-known plants, and very ornamental to any border of the pleaſure-garden. They commonly go by the names of,

Species.
1. The Spaniſh *Lavatera.*
2. The Cretic *Lavatera.*

Deſcription of the Spaniſh 1. The Spaniſh *Lavatera* ariſes with a ſmall, ſlender, rough ſtalk to the height of about two feet. The leaves are ſmooth, and compoſed of three lobes; theſe lobes are of an ovato-lanceolate figure, and the middle one is by much the longeſt. The flowers are produced in July and Auguſt, ſtand upon ſhort footſtalks, are of a pale but delicate red colour, and each footſtalk ſupports a ſingle flower: They will be ſucceeded by good ſeeds in October.

and the Cretic Lavatera. 2. The Cretic *Lavatera* ariſes with an erect, branching ſtalk to the height of about two feet. The lower branches are very diffuſe; and the under leaves are roundiſh, or rather of an heart-ſhaped figure; but thoſe above divide into three lobes. The footſtalks of the flowers ariſe in cluſters from the joints of the ſtalks, and each ſupports a ſingle flower. The flowers are of different colours; ſome plants producing red ones, others white, and a third ſort is tinged with purple; they will be in blow in July and Auguſt, and will afford ripe ſeeds early in October.

Varieties. The principal varieties of theſe ſpecies are called,

African *Lavatera.*
Althæa-leaved *Lavatera.*

African The African *Lavatera* has a branching, hairy ſtalk. The lower leaves are angular, and a little cordated; but the upper ones are ſagittated, or pointed like an arrow. The flowers are large, of a fine-red colour, and each footſtalk ſupports a ſingle flower; they will be in blow in July, and the ſeeds will be ripe in the autumn.

and Althæa-leaved Lavatera deſcribed. The *Althæa*-leaved *Lavatera* has leaves irregularly lobated like thoſe of the *Althæa*, ſome being roundiſh, others heart-ſhaped, but moſt of them inclined to a trilobate nature. Thoſe that grow on the ſtalk are more perfectly ſo; and the lobes are ſmooth, pointed, and of a light-green colour. The flowers are like thoſe of the Marſh-Mallow, tho' of different colours; they will be produced in July and Auguſt, each growing on a ſeparate footſtalk, and the ſeeds will be ripe in October.

Other varieties may be added; but their difference is ſo trifling, that they can hardly be called varieties. Even thoſe above mentioned will ſometimes afford from the ſame plant ſeeds, which will produce other plants differing in the ſhape of their leaves, the colour of their flowers, or in ſome reſpect or other. They are all of them, however, very pretty plants, and worthy of the beſt culture and management, and which indeed will be attended with very little expence or trouble.

Culture. In order, therefore, to raiſe theſe plants in perfection, ſow them in March on a gentle hot-bed, and let them have as much air as poſſible after they are come up. They will ſoon be fit to plant out; and let the firſt moiſt day that happens in May be fixed on for the purpoſe. Let a ball of earth, if poſſible, be preſerved to each plant; and let them not be planted out ſingly here-and-there, unleſs it be in ſuch ſmall gardens as can admit only of two or three plants of each ſpecies of Annuals; but let a quantity of theſe plants form a bed or clump, in proportion to the ſize of the apartment deſtined for theſe ſorts of flowers, and the effect will be more ſtriking when they are in full blow.

It is not abſolutely neceſſary to ſow the ſeeds on a hot-bed. It may be done in a border of light, good earth; and they will come up very well, and may be planted out as the others. But when this method is taken, let them be ſown early in March. Again, to avoid the trouble of tranſplanting, if you have plenty of ſeeds (having well prepared the ground), ſcatter theſe thinly over the ſpot where you intend them to grow. After they come up, thin them to a foot and a half or two feet diſtance, always leaving the ſtrongeſt remaining. Thus the plants will be often the ſtronger, the flowers larger, and the expence and trouble of tranſplanting ſaved.

1. The firſt ſpecies is titled, *Lavatera foliis glabris, caule ſcabro herbaceo, pedunculis unifloris, fructibus orbiculo tectis.* In the *Hortus Cliffort.* it is termed, *Lavatera foliis trilobis, laciniâ mediâ productiore, caule herbaceo.* Caſpar Bauhine calls it, *Malva folio vario*; Van Royen, *Lavatera foliis ovato-lanceolatis, infernè angulatis, pedunculis unifloris, caule herbaceo*; alſo, *Lavatera foliis ſubcordatis obtuſis angulatis ſerratis, caule herbaceo.* It grows naturally in Syria, Spain, and the South of France. Titles. Trimestris

2. The ſecond ſpecies is, *Lavatera caule erecto, ramis inferioribus diffuſis, pedunculis confertis unifloris, foliis lobatis, ſuperioribus acutis.* Tournefort calls it, *Malva Cretica annua, flore parvo ad alas umbellato*; and Moriſon, *Malva annua hirſuta, foliis hederæ inſtar anguloſis.* It is a native of Crete. Cretica.

The varieties have been diſtinguiſhed among old Botaniſts by the titles, *Lavatera Africana, flore pulcherrimo. Lavatera folio & facie altheæ,* &c.

CHAP. CXCVIII.

LEONURUS, LION's TAIL.

THERE are two ſpecies of this genus which are Biennials, called,

Species.
1. Tartarian Mother-wort.
2. Siberian Mother-Wort.

Deſcription of the Tartarian 1. The Tartarian Mother-Wort riſes to the height of about four or five feet. The leaves are ſmooth, grow on moderately long footſtalks, and are divided into three or five principal parts, which are again cut or divided into other parts; the radical ones are divided into five acute parts, but thoſe on the ſtalks into three. The flowers are produced in whorls round the ſtalks, are ſmall, of a reddiſh colour, and have hairy cups; they come out in July, and the ſeeds ripen in the autumn, ſoon after which the whole plant decays.

and Siberian Mother-Wort. 2. Siberian Mother-Wort. This ſpecies is often called Ruſſian Mother-Wort, and alſo Black Horehound. The ſtalks are ſquare, and riſe to about a yard high. The leaves are divided into three principal parts, which are again cut into many obtuſe ſegments. The flowers are produced from the joints of the ſtalks in thick cluſters; they are ſmall, of a reddiſh colour, come out in July, and ripen their ſeeds in the autumn; ſoon after which the plants decay.

Culture. Theſe plants are eaſily raiſed by ſowing of the ſeeds in the ſpring, in any bed of common earth. When they come up, they muſt be kept clean from weeds, and thinned where they appear too cloſe. In the autumn they ſhould be removed to the places where they are deſigned to flower; but they ſhould not be nearer than at leaſt a yard diſtance from each other. If theſe plants are never removed, but ſown in the places where they are to flower, and thinned to proper diſtances, they will flower earlier and ſtronger than thoſe that have been removed.

1. Tartarian Mother-Wort is titled, *Leonurus tripartitis laciniatis, calycibus villoſis.* In the *Hortus Cliffort.* it is termed, *Sideritis foliis tripartito-multifidis.* Amman calls it, *Cardiaca, foliis tenuius & profundius inciſis, glabra ſ. villoſa.* It grows naturally in Tartary. Titles. Tataricus.

2. Siberian Mother-Wort is, *Leonurus foliis tripartitis multifidis linearibus obtuſiuſculis.* Amman calls it, *Ballote inodora, foliis coronopi.* It grows naturally in Siberia and China. Sibiricus.

CHAP. CXCIX.

LEPIDIUM, DITTANDER, or PEPPER-WORT.

THE Common Creſs of our kitchen-gardens is an Annual of this genus. This plant muſt come into its proper place; and for variety's ſake we will mention here,

Species.

1. The Narrow-leaved Wild Creſs or Dittander.
2. Low Virginian Dittander.
3. Dittander called *Iberis.*
4. Mountain Dittander.
5. Perfoliate Dittander.

Deſcription of the Narrow-leaved

1. The Narrow-leaved Wild Creſs or Dittander. This ſpecies riſes with a ſlender, branching ſtalk to the height of about two feet. The radical leaves are indented nearly to the mid-rib; but thoſe on the branches are very narrow, and entire. The flowers are very ſmall and white, and each conſiſts of four petals placed croſswiſe, though ſometimes they are deſtitute of any; they terminate the branches in full blow in June and July, and the ſeeds ripen in Auguſt. Theſe ſeeds are, when ripe, of a yellowiſh colour, and exceeding hot or ſharp in the mouth.

and Low Virginian Dittander.

2. Low Virginian Dittander riſes with a ſlender, branching ſtalk to the height of about a foot. The radical leaves are pinnated; but thoſe on the ſtalk are narrow, heart-ſhaped, entire, and embrace it with their baſe. The flowers terminate the branches in looſe ſpikes, are ſmall, of a yellow colour, will be in blow in June and July, and ripen their ſeeds in September.

Dittander called Iberis deſcribed.

3. Dittander called *Iberis.* Tho' this ſpecies is generally mentioned as an Annual, yet in ſome dry ſoils the root will continue ſeveral years. It is long, thick, fleſhy, and ſends forth leaves and ſtalks. The ſtalks are branching, and will grow to about two feet high. The radical leaves are ſpear-ſhaped, ſerrated, and ſpread themſelves on the ground; but thoſe on the branches are narrow, and entire. The flowers grow in cluſters at the ends of the branches, are ſmall, white, will be in blow in June and July, and will ripen their ſeeds in the autumn.

Mountain

4. Mountain Dittander is a very ſmall Annual, and found growing in rocky places in England. The leaves are pinnated, and entire. The ſtalks are very low, and divide a little. The petals of the flowers are emarginated, and ſhorter than the calyx. It flowers in the ſpring, and the ſeeds ripen ſoon after.

and Perfoliate Dittander deſcribed.

5. Perfoliate Dittander. The ſtalks are ſlender, branching, and will grow to about a foot and a half high. The leaves on the ſtalks are divided into many parts; but thoſe on the branches are heart-ſhaped, entire, and ſurround the parts they grow from with their baſe. The flowers come out from the tops of the ſtalks in looſe bunches; they are ſmall, white, will be in blow in June and July, and ripen their ſeeds in the autumn.

All theſe plants are deſigned for thoſe who have large extent of gardens, they being too trifling for ſmall collections, and where there is little room.

Culture.

They are eaſily raiſed by ſowing the ſeeds in the autumn, ſoon after they are ripe, or in the ſpring. When the plants come up, nothing more is to be done than to thin them to proper diſtances, and keep them clean from weeds; when they will flower, and ſcatter their ſeeds, which will often come up, and continue the ſucceſſion without further trouble.

Titles.

1. The Narrow-leaved Wild Creſs or Dittander is titled, *Lepidium floribus diandris apetalis, foliis radicalibus dentato-pinnatis, ramiferis linearibus integerrimis.* Caſpar Bauhine calls it, *Naſturtium ſylveſtre, oſyridis folio*; Fuchſius, *Naſturtium anguſtifolium*; and Gerard, *Thlaſpi minus.* It grows naturally in England, and many parts of Europe. Ruderale.

2. Low Virginian Dittander is, *Lepidium floribus ſubtriandris tetrapetalis, foliis linearibus pinnatis* Gronovius calls it, *Lepidium foliis lanceolato-linearibus ſerratis*; Van Royen, *Lepidium foliis omnibus lineari-lanceolatis ſerratis*; and Moriſon, *Iberis humilior annua Virginiana ramoſior.* It grows naturally in Virginia and Jamaica. Virginicum.

3. The *Iberis* Dittander is, *Lepidium floribus diandris tetrapetalis, foliis inferioribus lanceolatis ſerratis, ſuperioribus linearibus integerrimis.* In the *Hortus Cliffort.* it is termed, *Lepidium foliis lanceolato-linearibus ſerratis.* Caſpar Bauhine calls it, *Iberis latiore folio*; and Dodonæus, *Iberis.* It grows naturally by the way-ſides of Germany, Gaul, Italy, and Sicily. Iberis.

4. Mountain Dittander is, *Lepidium foliis pinnatis integerrimis, petalis emarginatis calyce minoribus.* Columna calls it, *Cardamine puſilla ſaxatilis montana diſcoides*; and Caſpar Bauhine, *Naſturtium pumilum vernum.* It grows naturally on St. Vincent's Rock, and ſome other parts of the world. Petræum.

5. Perfoliate Dittander is, *Lepidium foliis caulinis pinnato-multifidis ramiferis cordatis amplexicaulibus integris.* Moriſon calls it, *Naſturtium ſpicatum Perſicum perfoliatum maximum*; Caſpar Bauhine, *Thlaſpi Alexandrinum*; and Zan, *Thlaſpi verum Dioſcoridis.* It grows naturally in Perſia and Syria. Perfoliatum.

CHAP. CC.

LIGUSTICUM, LOVAGE.

Species.

OF this genus are the following Biennials:
1. Peloponneſian Lovage.
2. Portugal Lovage.
3. Scottiſh Sea Parſley.

Deſcription of Peloponneſian

1. Peloponneſian Lovage. The root is thick, fleſhy, and as big as a moderate Parſnep. The leaves are compoſed of many pinnated leaves, whoſe folioles are cut into acute points. The whole leaf is large, and very beautiful; but, when bruiſed, emits a ſtrong, diſagreeable odour. The ſtalks are like thoſe of Hemlock, large, hollow, jointed, and four or five feet high. The flowers come out from the tops of the ſtalks in large, roundiſh umbels; they are of a yellowiſh colour, appear in June and July, and are ſucceeded by oblong, channelled ſeeds, which ripen in the autumn.

and Portugal Lovage.

2. Portugal Lovage. The root is thick, fleſhy, and ſtrikes deep into the ground. The leaves are ſupradecompound, and the folioles are cut into three wedge-ſhaped, ſmooth, jagged ſegments. The ſtalks are firm, upright, ſmooth, angular, and grow to about two feet high. The flowers come out from the tops of the ſtalks in umbels; the petals are yellow, inflexed, and indented; and the filaments are longer than the petals, and have white antheræ. The flowers appear in June and July, and are ſucceeded by oblong, channelled ſeeds, which ripen in the autumn.

Scottiſh Sea Parſley deſcribed.

3. Scottiſh Sea Parſley is deſcribed among the Perennials, the root often continuing for many years; but as it frequently dies, like the two preceding ſpecies, ſoon after the ſeeds are perfected, its culture may be ſimilar to them in thoſe ſoils wherein it is found to be the ſhorteſt-lived.

Culture.

All theſe ſpecies are propagated by ſowing the ſeeds, ſoon after they are ripe, in the places where they are to remain. The ground muſt be double-dug, in order to make room for their roots to ſtrike deep into it; and the plants will be proportionally larger and fairer. In the ſpring they ſhould be thinned to proper diſtances; and in doing of this, not only the weakeſt ſhould be drawn out, but the ſtrongeſt plants alſo ſhould be taken away, as theſe laſt would probably flower in the autumn ſo late as not to ripen their ſeeds. Let healthy, middle-ſized plants, therefore, be left in the beds, and kept clean from weeds all ſummer; let the ground between the plants be dug in the winter; and the ſummer following they will be as perfect as poſſible, flowering ſtrong, and producing good ſeeds for a ſucceſſion; and theſe, if permitted to ſcatter, will grow, and produce plants enough to continue the ſucceſſion afterwards. But as plants from ſcattered ſeeds often come up in improper places, the ground ſhould be double dug, and the ſeeds regularly ſown in the places where they are to remain; for though they will bear tranſplanting very well, yet they thrive beſt when they are never diſturbed.

Titles.

1. Peloponneſian Lovage is titled, *Liguſticum foliis multiplicato-pinnatis, foliolis pinnatim inciſis.* Caſpar Bauhine calls it, *Cicutaria latifolia fœtida*; and Cammerarius, *Seſeli Peloponnenſe.* It grows naturally on the Peloponneſian mountains.

Peloponne=siacum.

2. Portugal Lovage is, *Liguſticum umbellæ primariæ involucro ſubnullo, lateralibus baſi membranaceis, radiis ſubramoſis.* It grows naturally in Portugal.

Peregri=num.

3. Scottiſh Sea Parſley. The title is among the Perennials of this genus.

* * *

CHAP. CCI.

LINUM, FLAX.

Species.

THE Annuals of this genus are,
1. Common Cultivated Flax.
2. Rough-leaved Spaniſh Flax.
3. Purging Flax.
4. Leaſt Rupture-Wort, or All-Seed.
5. Verticillate Flax.

Common Cultivated Flax deſcribed.

1. Common Cultivated Flax. The ſtalk is ſlender, round, hollow, divides into a few branches or footſtalks near the top, and grows to about two feet and a half high. The leaves are long, narrow, greyiſh, ſpear-ſhaped, acute, and placed alternately. The flowers grow from the ends of the branches or footſtalks, are of an elegant-blue colour, appear in June and July, and are ſucceeded by large, roundiſh capſules, containing ripe ſeeds, in September.

Varieties

There are three or four varieties of this ſpecies, differing chiefly in the ſize of the plants, the largeneſs of the flowers, and ſeed-veſſels.

Rough-leaved Spaniſh Flax deſcribed.

2. Rough-leaved Spaniſh Flax. The ſtalk is round, upright, divides into branches near the top, and grows to about a foot and a half high. The leaves are ſpear-ſhaped, acute, numerous, and rough on their edges. The flowers come out from the ends of the branches, which divide into footſtalks, each containing two or three flowers; they are of a yellow colour, appear in

July, and are ſucceeded by ripe ſeeds in the autumn.

Purging Flax deſcribed.

3. Purging Flax. This ſpecies is alſo called Mountain Flax. The ſtalk is dichotomous, round, ſlender, and eight or ten inches high. The leaves are ſmall, oval, ſpear-ſhaped, pointed, and grow oppoſite to each other, ſitting cloſe, without any footſtalks. The flowers come out from the ſides and diviſions of the branches on ſlender foot ſtalks; they are of a white colour, appear in July, and are ſucceeded by round capſules, containing ripe ſeeds, in September.

Deſcription of Leaſt Rupture-Wort.

4. Leaſt Rupture-Wort, or All-Seed. This is a very low plant, dividing into numerous ſlender branches, and growing only to about two or three inches high. The leaves are ſmall, oval, and grow oppoſite by pairs at the joints, without footſtalks. The flowers are extremely ſmall, numerous, and of a white colour; they come out from every part of the plant in the ſummer months, and are ſucceeded by large ſeed-veſſels, which are ſo crowded and numerous that the plant ſeems to be *all ſeed*, on which account it bears this appellation.

Verticillate Flax deſcribed.

5. Verticillate Flax. The ſtalks are round, jointed, and about a foot and a half high. The leaves are narrow, pointed, the upper ones being hairy, and grow in whorls round the ſtalks. The flowers come out from the tops of the plant on ſlender footſtalks, are of a whitiſh-blue colour, appear in July, and are ſucceeded by ripe ſeeds in the autumn.

Culture.

All theſe ſpecies are propagated by ſowing the ſeeds in the places where they are to remain, ſoon after they are ripe, or in the ſpring; though the autumn is preferable for the ſecond, third, and fifth ſpecies, becauſe they will then flower earlier, and perfect their ſeeds with greater certainty.

The ſeeds of the third ſpecies ſhould be ſown as ſoon as they are ripe; and the ſoil ſhould be naturally light, hungry, ſoapy, and freſh; otherwiſe they will not grow. After all the ſpecies have made their appearance, they will require no trouble, except keeping them clean from weeds. If the ſeeds are neglected to be gathered, they will ſow themſelves; and plants for a ſucceſſion are frequently produced from ſuch ſcattered ſeeds without any trouble.

The firſt ſpecies is the Cultivated Flax, which is raiſed in large quantities in many places, for the ſake of the ſtalks, which afford the flax for linen, and alſo on account of the ſeeds, for oil.

Propagation of the firſt ſpecies particularly.

The ſoil for Flax ſhould be fat, freſh, deep, loamy, and ſituated near ſtanding-water, for the conveniency of ſteeping the Flax when pulled. The ground ſhould be made fine, by repeated ploughing and harrowing, at leaſt a year and a half before the ſeeds are ſown; and it will then be in good order for their reception. If the ſeeds are ſown in October, the plants will come up in the ſpring, flower earlier, and be ready to pluck ſooner, than if the buſineſs is deferred. Nevertheleſs, the general time for ſowing of Flax, as is now practiſed, is the latter end of March, or early in April; and experience confirms this ſeaſon to be good.

Two buſhels of ſeeds are a proper quantity for an acre. They ſhould be ſown by broadcaſt, and ſlightly harrowed in with a light harrow; for they ought not to be covered with more than half an inch, or an inch, depth of mould.

When the plants come up, they only require to be kept clean from weeds. They will want no thinning; for ſhould they be very thick and crowded together, ſo as to cauſe one another to become weak and ſlender, ſuch plants yield the fineſt flax; whilſt the plants that have had room to arrive at their full ſize, will be coarſer, and of a worſe colour.

If inſects ſhould attack the Flax, as they often do when it is about three inches high, they are killed by a ſlight ſowing of ſoot, lime, or ſea-coal aſhes; and this dreſſing will invigorate the plants, and cauſe the produce to be in greater abundance.

When the Flax is about three inches high, it muſt be weeded; for weeds are great enemies to Flax, and, if they are not carefully extirpated, will weaken and deſtroy great part of the crop. In doing this buſineſs, the labourers ſhould work barefoot; for though the Flax receives no damage from ſuch ſort of preſſure as ſitting down on it, walking barefoot, &c. yet it will be dangerouſly wounded by the preſſure of the ſhoe: and, unleſs this is guarded againſt, more damage may be done by weeding in ſhoes, eſpecially ſuch as labourers wear, than what might be in conſequence of the weeds being left unmoleſted.

Flax is very liable to be laid or beaten flat to the ground by ſtorms and tempeſtuous weather. To guard againſt theſe evils, it is good huſbandry to place forked ſticks at a proper diſtance from each other, and to lay ſlender poles in the forks. They ſhould be placed in rows the whole length, at proper intervals between each row; and they ſhould be made alſo to croſs each other, that the plants may be ſupported by horizontal poles, let the ſtorm come from what quarter it will. Ropes are ſometimes uſed, inſtead of long ſticks or ſlender poles: They are equally good, if not better; afford admirable network for the guard and ſafety of the Flax; and will make ample amends for their extraordinary trouble and expence, ſhould tempeſtuous weather happen when the Flax is grown to any tolerable height. The time for fixing the poles and ſtrings is at the time of weeding, when the Flax is grown to about three inches high.

Method of gathering flax.

When the ſtalks turn yellow at the bottom, they ſhould be pulled for uſe. If they are pulled earlier, the Flax will be finer, but leſs in quantity, ſtrength, and duration. If the plants are permitted to ſtand until the ſeeds are full ripe, the Flax will be in greater quantity and ſtronger, but very coarſe, bad-coloured, and nearly approaching to hemp.

Its after management.

When the Flax is of due maturity, it ſhould be pulled up by handfuls at two or three different times: The ſtrongeſt and the beſt-ripened plants ſhould be pulled up firſt; then the others, until the whole is gathered. As the plants are plucked up, the mould ſhould be ſeparated from the roots, and they ſhould be laid on the ground in handfuls, or ſlightly bound in bundles, and ſet up, in the manner of ſmall wheat-ſheaves, that they may the better enjoy the ſun and air. When they have thus ſtood until they are thoroughly dry, and the ſeeds are ripe, which will be in ten days or a fortnight, they ſhould be rippled, the flax of different properties ſhould be ſorted, and the ſeeds threſhed out, winnowed, ſpread thinly in an airy room, and frequently ſtirred to prevent their heating. The Flax ſhould be next carried to the water for ſteeping; and this ſhould be a ſtanding, not a running water, and full upon the ſun, to render it ſoft and warm. When ſuch a lake is not found naturally, a canal ſhould be made, the bottom of which ſhould be well clayed to hold the water. It ſhould be filled with river or rain water ſome weeks before it is wanted, that it may be in proper order for the purpoſe. A canal forty feet long, ſix broad, and four deep, is found, by experience, to afford water ſufficient for an acre of Flax.

When the Flax is put into the water, it ſhould be covered down and kept under with ſtraw-hurdles, laying ſtones on them, the more effectually to preſerve its colour, which it is liable to loſe, if expoſed to the ſun thus ſubmerged.

When it is ſufficiently ſteeped, which will be ſooner or later according to the warmth of the air or ſeaſon, the nature of the water, or hardneſs of the flax (which is known by taking out a few ſtalks, and trying if they ſnap ſhort, and the bark ſeparates from the reed, which is a ſign of their being properly ſteeped), they ſhould then be directly taken out of the water, or they will ſoon begin to rot.

After the Flax is taken out of the water, it is laid by handfuls in kind of ſwaths to dry; and afterwards, when by proper turnings it is become ſupple, bleached, and dried, it will be ready for the Flax-dreſſer, who prepares it for the various purpoſes for which Nature deſigned this moſt uſeful plant.

Flax will grow on upland ground, ſandy, and very gravelly ſoils; but it will be very weak, and the Flax finer. When it is attempted to be raiſed on wet land that has been long kept in tillage, it ſhould be laid in ridges in winter, the more effectually to drain off the redundant moiſture. It ſhould alſo be well dunged with rotten dung, to bring it into good heart, and render it more like freſh earth. Flax is a great impoveriſher of land; on which account more than two crops in cloſe ſucceſſion ought never to be attempted before the ground is laid fallow, and by proper huſbandry brought to a good heart.

Titles. Uſitatiſ=ſimum.

1. The Common Cultivated Flax is titled, *Linum calycibus capſuliſque mucronatis, petalis crenatis, foliis lanceolatis alternis, caule ſubſolitario.* In the *Hortus Cliffort.* it is termed, *Linum ramis foliiſque alternis lineari-lanceolatis, radice annuâ*; in the *Hortus Upſal. Linum foliis alternis lanceolatis integerrimis, calycibus acuminatis angulatis, capſulis mucronatis.* Caſpar Bauhine calls it, *Linum arvenſe*; alſo, *Linum ſativum.* Boerhaave names it, *Linum ſativum humilius, flore majore*; and Tournefort, *Linum ſativum latifolium Africanum, fructu majore.* It grows naturally in the open fields in England, and moſt of the ſouthern countries of Europe.

2. Rough-leaved Spaniſh Flax is, *Linum calycibus ſubulatis, foliis lanceolatis ſtrictis mucronatis, margine ſcabris.* Magnol calls it, *Linum foliis aſperis umbellatum luteum*: Caſpar Bauhine, *Lithoſpermum, linariæ folio, Monſpelienſium*; and John Bauhine, *Paſſerina Lobelii.* It grows naturally in Spain, Sicily, and the South of France. Stric=tum.

3. Purging Flax is, *Linum foliis oppoſitis ovato-lanceolatis, caule dichotomo, corollis acutis.* Caſpar Bauhine calls it, *Linum pratenſe, floſculis exiguis*; Gerard, *Linum ſylveſtre catharticum*; and Parkinſon, *Chamælinum Cluſii flore albo, ſ. Linum ſylveſtre catharticum.* It grows naturally in ſterile meadows and paſtures, banks, &c. in England, and moſt of the northern parts of Europe. Cathar=ticum.

4. Leaſt Rupture-Wort, or All-Seed, is, *Linum foliis oppoſitis, caule dichotomo, floribus tetrandris tetragynis.* Vaillant calls it, *Chamælinum vulgare*; Micheli, *Linocarpum, ſerpilli folio, multicaule & multiflorum*; Ray, *Radiola vulgaris ſerpillifolia*; Caſpar Bauhine, *Polygonum minimum, ſ. millegrana minima*; and Gerard, *Millegrana minima.* It grows naturally in gravelly, heathy, and moiſt places, in England and moſt parts of Europe. Radiola.

5. Verticillate Flax is, *Linum foliis verticillatis.* Boccone calls it, *Linum ſylveſtre, flore cæſio, foliis verticillatis.* It grows naturally in Italy. Verticil=latum.

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CHAP. CCII.

LITHOSPERMUM, GROMWELL.

OF this genus there is an Annual that is pretty well known, as we have it in our fields in many parts, and often in ſuch plenty as to incommode the induſtrious peaſant. It is uſually called Baſtard Alkanet.

The plant deſcribed.

The root is oblong, red, and ſtrikes deep into the ground. The ſtalk is round, rough, branching, and will grow to about a foot and a half in height. The leaves are ſpear-ſhaped, hairy, of a light-green colour, and are placed alternately on the branches. The top of the plant produces the flowers ſingly on ſhort footſtalks; they are ſmall, white, appear in June, and are ſucceeded by rough, ripe ſeeds in Auguſt.

Culture.

The beſt culture of this ſpecies is to ſow the ſeeds as ſoon as they are ripe. They will then ſoon come up, and will flower early the ſummer following; whereas, if they are kept until the ſpring, they will ſometimes lie in the ground until the ſpring after before they appear. Any ſoil or ſituation will ſuit them; and after they have once flowered in a garden, they will ſhed their ſeeds, and come up without further trouble.

Titles. Arvenſe.

This ſpecies is titled, *Lithoſpermum ſeminibus rugoſis, corollis vix calycem ſuperantibus.* Caſpar Bauhine calls it, *Lithoſpermum arvenſe, radice rubrâ*; and Gerard, *Anchuſa degener facie milli ſolis.* It is common in our tillage-fields, and grows in moſt parts of Europe.

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C H A P. CCIII.

LOBELIA, CARDINAL FLOWER.

Species.

THE ſhort-lived ſpecies of this genus are,
1. Inflated Cardinal Flower.
2. *Trachelium*-leaved Cardinal Flower.
3. French Cardinal Flower.
4. Canada Cardinal Flower.
5. Italian Cardinal Flower.
6. Cape Cardinal Flower.
7. Upright Æthiopian Cardinal Flower.
8. Procumbent African Cardinal Flower.
9. Comoſe Cardinal Flower.
10. Hairy Cardinal Flower.
11. Long-flowered *Lobelia*.

Deſcription of Inflated Cardinal Flower.

1. Inflated Cardinal Flower. The ſtalks are upright, channelled, hairy, and grow to be two feet high. The leaves are oval, ſlightly ſerrated, of a thin conſiſtence, and a light-green colour. The flowers terminate the ſtalks in looſe ſpikes, coming out from the wings of the leaves on long ſlender footſtalks; they are ſmall, and of a light-blue colour; they appear in July, and are ſucceeded by large, inflated capſules, containing ripe ſeeds in September.

Culture.

The ſeeds of this ſpecies ſhould be ſown in pots in the autumn, and kept from the froſt all winter; otherwiſe they will not come up early enough to flower and perfect their ſeeds the ſummer following.

Trachelium-leaved Cardinal Flower deſcribed.

2. *Trachelium*-leaved Cardinal Flower. The ſtalk is upright, and uſually divides into three or four ſmaller branches, which grow erect. The leaves are heart-ſhaped, ſmooth, ſlightly indented, and grow on ſhort footſtalks. The flowers come out in ſmall bunches from the ends of the branches; they are ſmall, and of a purpliſh colour; they appear in June and July, and are ſucceeded by ſmall capſules, containing ripe ſeeds in September.

Culture.

The ſeeds of this plant alſo ſhould be ſown in the autumn in pots; and in the ſpring, when the plants are fit to remove, they ſhould be tranſplanted to the places where they are deſigned to flower. This ſort will ſcatter its ſeeds, and ſpontaneouſly produce plants; which, if they are not killed by the froſt, will often be ſtronger and fairer than thoſe raiſed by regular ſowing.

French Cardinal Flower deſcribed.

3. French Cardinal Flower. The ſtalk is erect, thick, and two feet high. The lower leaves are roundiſh, and indented; but thoſe on the upper-parts of the ſtalks are ſpear-ſhaped, ſeſſile, ſerrated, and of a thin conſiſtence. The flowers come out from the tops of the ſtalks in long looſe ſpikes; they are of a bright-blue colour, appear in July, and are ſucceeded by ſmall, roundiſh capſules, containing ripe ſeeds in September.

Culture.

The ſeeds of this ſpecies muſt be ſown in the autumn, and when the plants come up in the ſpring, they muſt have ſimilar treatment with the former.

Canada,

4. Canada Cardinal Flower. The ſtalk is round, erect, and about a foot high. The lower leaves are ſpear-ſhaped, but the upper ones are linear; they have no footſtalks, are obtuſe, entire, and grow alternately. The flowers are produced from the ends of the ſtalks in looſe ſpikes; they grow ſingly on footſtalks, which are uſually furniſhed with one ſmall leaf, and come out from the wings of the upper leaves; they are of a blue colour, appear in July and Auguſt, and the ſeeds ripen in the autumn.

Italian

5. Italian Cardinal Flower. The ſtalks are ſlender, branching, and, unleſs ſupported, lie on the ground. The leaves are ſpear-ſhaped, oval, and indented on the edges. The flowers come out ſingly from the ſides of the branches on long, ſlender footſtalks; they are ſmall, and of a blue colour; they will be in blow in July and Auguſt, and the ſeeds ripen in September.

and Cape Cardinal Flower deſcribed.

6. Cape Cardinal Flower. The ſtalk is upright, firm, and a foot and a half high. The lower leaves are oval and oblong; the middle ones are ſpear-ſhaped, and the upper ones ſmall and narrow. The flowers come out from the wings of the upper leaves, growing three together on a footſtalk; they are ſmall, and of a yellow colour; they appear in July and Auguſt, and the ſeeds ripen in September.

Culture.

The laſt three ſorts may be raiſed on a hot-bed in the ſpring, and when they are of proper ſize, may be removed to the places where they are deſigned to flower.

Deſcription of Upright,

7. Upright African Cardinal Flower. The ſtalks are ſlender, branching, and about a foot high. The leaves are ſmall, ſpear-ſhaped, ſmooth, indented, and ſit cloſe to the branches. The flowers come out from the wings of the leaves on long, ſlender footſtalks; they are ſmall, and of a blue colour; they appear in July, and are ſucceeded by ſmall, roundiſh capſules, containing ripe ſeeds in September.

and Procumbent African Cardinal Flower.

8. Procumbent African Cardinal Flower. The ſtalks are ſlender, weak, and trailing. The leaves are ſpear-ſhaped, ſmall, and ſerrated on the edges. The flowers come out on footſtalks from the ſides of the branches; they are ſmall, and of a blue colour; they appear in July, and the ſeeds ripen in the autumn.

Culture.

Theſe laſt two ſorts are beſt propagated in the manner of the firſt three ſorts.

Comoſe,

9. Comoſe Cardinal Flower. The ſtalk is round, upright, and about a foot high. The leaves are narrow, indented, and ſit cloſe to the ſtalk. The flowers come out in leafy ſpikes from the ends of the ſtalks; they appear in July, and the ſeeds ripen in the autumn.

and Hairy Cardinal Flower deſcribed.

10. Hairy Cardinal Flower. The ſtalks are upright, hairy, and a foot and a half high. The leaves are oval, hairy, and indented on their edges. The flowers come out ſingly from the wings of the leaves on long, ſlender footſtalks; they are ſmall, and of a blue colour; they appear in July, and the ſeeds ripen in the autumn.

Culture.

Theſe two alſo require the ſame treatment as the firſt three ſpecies.

Long-flowered Lobelia deſcribed.

11. Long-flowered *Lobelia* is a Biennial of great beauty, but very tender, and hardly to be brought to perfection without the aſſiſtance of a ſtove. The root conſiſts of a few ſtrong, ligneous fibres. The ſtalk is upright, and about a foot high. The leaves are ſpear-ſhaped, hairy,

indented, of a deep-green colour, and ſit cloſe to the ſtalks. The flowers come out from the wings of the leaves on ſhort footſtalks; they are of a white colour, and their tubes are ſlender, and often four inches long; they appear in June and July, and are ſucceeded by turgid capſules, containing ripe ſeeds in September.

Culture.

This plant is eaſily raiſed by ſowing the ſeeds, ſoon after they are ripe, in pots filled with rich earth. All winter they muſt be protected from froſts, and in the ſpring plunged into a good hot-bed of tanner's bark to bring them up; otherwiſe they often lie until the ſpring after before they make their appearance. When the plants are three inches high, each ſhould be ſet in a ſeparate pot, and again plunged into the bark-bed. They muſt be ſhaded at firſt, and conſtantly watered; and as the weather encreaſes in heat, a larger ſhare of air muſt be allowed them; and with this management they may remain all ſummer. In the autumn the pots ſhould be removed into the ſtove, and plunged into the bark-bed, where they may ſtand to flower and perfect their ſeeds, which will be the ſummer following.

Titles.

Inflata. 1. Inflated Cardinal Flower is titled, *Lobelia caule erecto, foliis ovatis ſubſerratis pedunculo longioribus, capſulis inflatis.* Van Royen calls it, *Lobelia caule erecto brachiato, foliis ovato-lanceolatis obſoletè inciſis, capſulis inflatis.* It is a native of Virginia and Canada.

Cliffortiana. 2. *Trachelium*-leaved Cardinal Flower is, *Lobelia caule erecto, foliis cordatis obſoletè dentatis petiolatis, corymbo terminali.* Plumier calls it, *Rapuntium trachelii folio, flore purpuraſcente.* It grows naturally in Virginia and Canada.

Urens. 3. French Cardinal Flower is, *Lobelia caule erectiuſculo, foliis inferioribus ſubrotundis crenatis, ſuperioribus lanceolatis ſerratis, floribus racemoſis.* Loefling calls it, *Lobelia caule erecto, foliis lanceolatis ſubdentatis, ſpicâ laxâ longâ terminali*; Guettard, *Lobelia foliis oblongo-ovatis, floribus laxè ſpicatis*; Moriſon, *Rapunculus galeatus Bleſenſis ſ. Solonienſis, flore violaceo minore*; alſo, *Rapuntium urens Solonienſe*; and Caſpar Bauhine, *Draba flore cæruleo galeato.* It grows naturally in the foreſts near Blois; alſo in Spain.

4. Canada Cardinal Flower is, *Lobelia caule erecto, foliis lanceolato-linearibus obtuſiuſculis alternis integerrimis, racemo terminali.* Tournefort calls it, *Rapuntium Canadenſe pumilum, linariæ folio.* It grows naturally in Canada. Kalmii

5. Italian Cardinal Flower is, *Lobelia caule proſtrato, foliis lanceolatis ovatis crenatis, caule ramoſo, pedunculis ſolitariis unifloris longiſſimis.* Micheli calls it, *Laurentia annua minima, flore cæruleo*; and Ray, *Rapunculus aquaticus repens, flore cæruleo inaperto.* It is a native of Italy. Laurentia.

6. Cape Cardinal Flower is, *Lobelia caulibus erectis, foliis oblongis dentatis.* Commeline calls it, *Cheiranthus Africana, flore luteo.* It grows naturally at the Cape of Good Hope. Cheiranthus.

7. Upright Æthiopian Cardinal Flower is, *Lobelia caule patulo, foliis lanceolatis ſerratis, caule erecto ramoſo, pedunculis longiſſimis.* Herman calls it, *Campanula minor Africana, erini facie, flore violaceo, caulibus erectis.* It grows naturally in Italy. Erinus

8. Procumbent African Cardinal Flower is, *Lobelia caulibus procumbentibus, foliis lanceolatis ſerratis, pedunculis lateralibus.* Herman calls it, *Campanula minor Africana, erini facie, caulibus procumbentibus.* It is a native of Æthiopia. Erinoides.

9. Comoſe Cardinal Flower is, *Lobelia foliis linearibus dentatis, ſpicâ terminali folioſâ.* It grows naturally in Æthiopia. Comosa.

10. Hairy Cardinal Flower is, *Lobelia foliis ovalibus crenatis lanatis, floribus lateralibus ſolitariis.* Burman calls it, *Rapuntium foliis ſubrotundis hirtis, flore ex alis ſolitario*; Plukenet, *Rapunculus galeatus Æthiopicus cæruleus, hirſutis & ſubrotundis crenatis foliis*; and Ray, *Rapuntium Africanum galeatum, foliis oblongo-rotundatis dentatis villoſis.* It inhabits Æthiopia. Hirsuta.

11. Long-flowered *Lobelia* is, *Lobelia foliis lanceolatis dentatis, pedunculis breviſſimis lateralibus, tubo corollæ filiformi longiſſimo.* Sloane calls it, *Rapunculus aquaticus, foliis cichorei, flore albo: tubo longiſſimo*; and Plumier, *Trachelium ſonchi folio, flore albo longiſſimo.* It grows naturally in Jamaica. Longiflora.

CHAP. CCIV.

LOEFLINGIA.

THIS genus, at preſent, conſiſts only of one ſpecies, namely, *Loeflingia.*

The plant deſcribed.

The ſtalks are tender, clammy, divide into numerous branches, and, unleſs ſupported, lie on the ground. The leaves are awl-ſhaped, ſhort, and dentated on each ſide. The flowers are produced in ſmall, ſhort ſpikes from the wings of the leaves; they appear in July and Auguſt, and the ſeeds ripen in the autumn.

Method of propagation.

This plant is raiſed by ſowing the ſeeds on a hot-bed in the ſpring. If the ſeeds are good, they will readily come up, when they muſt have as much free air as the weather will permit, to prevent their drawing weak; and they muſt have water in ſmall quantities, which is apt to rot them in that tender ſtate. In May, or ſome moiſt day, if poſſible, they ſhould be taken up with a ball of earth to each root, and planted in ſome open part of the garden, where they will flower and perfect their ſeeds.

Titles.

There being no other ſpecies belonging to this genus, it ſtands ſingly with the name *Loeflingia.* It grows naturally on the ſunny ſides of the hills in Spain. Hispanica.

Claſs and order in the Linnæan Syſtem.

Loeflingia is of the claſs and order *Triandria Monogynia*; and the characters are,

The characters.

1. Calyx is an upright perianthium, com-

poſed of five ſpear-ſhaped, pointed, permanent leaves, having a denticle on each ſide the baſe.

2. Corolla conſiſts of five ſmall, oblong, oval petals, which converging form a globe.

3. Stamina are three filaments the length of the corolla, having roundiſh, didymous antheræ.

4. Pistillum conſiſts of an oval, three-cornered germen, a filiforme ſtyle that is ſomewhat broadeſt near the top, and an obtuſe ſtigma.

5. Pericarpium is an oval, ſubtrigonal capſule, formed of three valves, and containing one cell.

6. Semina. The ſeeds are many, oval, and oblong.

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CHAP. CCV.

LOLIUM, DARNEL.

OF this genus there is an Annual called White Darnel.

The plant deſcribed.

The leaves are long, broad at the baſe, pointed, rough, and of a dark-green colour. The ſtalks are round, hollow, jointed, and two or three feet high. The flowers come out from the tops of the ſtalks in bearded ſpikes; they appear in July and Auguſt, and the ſeeds ripen in Auguſt and September.

This plant riſes among the barley in many fields.

Titles.

Temulentum.

This ſpecies is titled, *Lolium ſpicâ ariſtatâ; ſpiculis compreſſis ariſtatis.* In the *Hortus Cliffort.* it is termed, *Lolium ſpicis ariſtatis, radice annuâ.* Caſpar Bauhine calls it, *Gramen loliaceum, ſpicâ longiore, ſ. lolium Dioſcoridis*; and Gerard, *Lolium album.* It is a native of moſt countries in Europe.

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CHAP. CCVI.

LOTUS, BIRD's FOOT TREFOIL.

Species.

THE Annuals of this genus are,

1. Square-podded Bird's Foot Trefoil.
2. Conjugate-podded Bird's Foot Trefoil.
3. Eſculent-podded Bird's Foot Trefoil.
4. Twin-podded Bird's Foot Trefoil.
5. Ornithopodioide Bird's Foot Trefoil.

Deſcription of Square-podded Bird's Foot Trefoil.

1. Square-podded Bird's Foot Trefoil. The ſtalks are ſlender, round, branching, a foot long, and lie on the ground. The leaves are trifoliate, oval, and have two ſmall leaves, growing one on each ſide the footſtalk at the baſe. The flowers come out ſingly from the joints on footſtalks, which are garniſhed with three leaves juſt below the flower-cup; they are moderately large, and of a beautiful red or crimſon colour; they appear in June and July, and are ſucceeded by pods, having at each corner a leafy membrane running the whole length, which contains ripe ſeeds in the autumn.

Its uſes.

The pods of this plant were formerly dreſſed and eaten as Peaſe; for which purpoſe it was uſed to be raiſed. But it is now become out of uſe, ſince the introduction of the numerous better eſculents into our kitchen-gardens. It is cultivated, however, for the ſake of the flowers, which are very beautiful. The general practice is to ſow them in patches here-and-there about the garden, but they have a very trifling look. In order to be ſhewn to the beſt advantage, they ſhould be made to form four or five rows of a conſiderable length, at about a foot diſtance from each other.

Conjugate and Eſculent-podded Bird's Foot Trefoil deſcribed.

2. Conjugate-podded Bird's Foot Trefoil. The ſtalks are numerous, branching, and about a foot long. The leaves are trifoliate, oval, acute, and on each ſide the footſtalk have a ſhort leaf of an oblong, oval figure. The flowers grow two together on footſtalks, which proceed from the wings of the branches; they are of a yellow colour, appear in July, and are ſucceeded by conjugate pods, having four leafy, longitudinal membranes, and containing ripe ſeeds in the autumn.

3. Eſculent-podded Bird's Foot Trefoil. The ſtalks are numerous, ſlender, trailing, and about a foot long. The leaves are trifoliate, roundiſh, and have ſmall bracteæ appendiculated at the baſe of each footſtalk. The flowers come out ſingly from the ſides of the branches on long footſtalks; they are ſmall, and of a yellow colour; they appear in June and July, and are ſucceeded by ſingle, thick, arched pods, containing ripe ſeeds in the autumn.

This plant is propagated for the ſake of the pods, which are eaten as Peaſe in the countries where the plant naturally grows.

Twin-podded,

4. Twin-podded Bird's Foot Trefoil. The ſtalks are ſlender, branching, procumbent, and about a foot and a half long. The leaves are trifoliole, ſmooth, round, and appendiculated at the baſe of the footſtalk. The flowers come out, two together, on ſhort footſtalks from the ſides of the branches; they are of a yellow colour, appear in July, and are ſucceeded by two narrow, taper, nutant, compreſſed pods, containing ripe ſeeds in the autumn.

and Ornithopodioide Bird's Foot Trefoil deſcribed.

5. Ornithopodioide Bird's Foot Trefoil. The ſtalks are very firm, upright, divide irregularly into numerous branches, and grow to a foot and a half or two feet high. The leaves are trifoliate, and appendiculated at the baſe. The flowers come out in cluſters from the wings of the ſtalks on pretty long footſtalks; they are of a yellow colour, appear in July, and are ſucceeded by flat, arched, compreſſed pods, containing ripe ſeeds in the autumn.

Method of propagation.

All theſe ſorts are propagated by ſowing the ſeeds in the ſpring, in beds of light earth made fine. They ſhould be ſown in drills, and covered ſcarcely a quarter of an inch deep. When they come up, they ſhould be thinned where they are too cloſe, kept clean from weeds, watered in dry weather, and in June or July they will flower, and perfect their ſeeds in the autumn.

Titles.

1. Square-podded Bird's Foot Trefoil is titled, *Lotus leguminibus ſolitariis membranaceo-quadrangulatis, bracteis ovatis.* Van Royen calls it, *Lotus leguminibus ſubſolitariis: angulis quatuor membranaceis*; Caſpar Bauhine, *Lotus ruber, ſiliquâ anguloſâ*; and Commeline, *Lotus pulcherrima tetragonolobus.* It is a native of Sicily.

Tetragonolobus.

2. Conjugate-podded Bird's Foot Trefoil is, *Lotus leguminibus conjugatis membranaceo-quadrangulis, bracteis oblongo-ovatis.* Boerhaave calls it, *Lotus luteus, ſiliquâ anguloſâ.* It grows naturally in the South of France.

Conjugatus.

3. Eſculent-podded Bird's Foot Trefoil is, *Lotus leguminibus, ſubſolitariis gibbis incurvis.* Caſpar Bauhine calls it, *Lotus pentaphyllos, ſiliquâ cornutâ*; Ray, *Lotus edulis Cretica*; and Moriſon, *Lotus oligoceratos Cretica lutea, ſiliquis binis curvis propendentibus.* It grows naturally in Italy, Sicily, and Crete.

Edulus.

4. Twin-podded Bird's Foot Trefoil is, *Lotus leguminibus ſubbinatis linearibus compreſſis nutantibus.* Boerhaave calls it, *Lotus, ſiliquis geminis, peregrina.* It grows naturally in moſt of the ſouthern countries of Europe.

Peregrinus.

5. Ornithopodioide Bird's Foot Trefoil is, *Lotus leguminibus ſubternatis arcuatis compreſſis, caulibus diffuſis.* Caſpar Bauhine calls it, *Lotus ſiliquis ornithopodii*; and Commeline, *Lotus peculiaris ſiliquoſa.* It grows naturally in Sicily.

Ornithopodioides.

CHAP. CCVII.

LUDWIGIA.

OF this genus there is an Annual of our gardens, called Virginian Yellow Willow-Herb.

This plant deſcribed.

The ſtalk is upright, firm, branching, and about a foot high. The leaves are ſpear-ſhaped, long, undivided, and grow alternately. The flowers come out ſingly on footſtalks from the wings of the leaves along the upper-parts of the branches; they are of a beautiful green colour, appear in July and Auguſt, and the ſeeds ripen in the autumn.

Culture.

This plant is raiſed by ſowing the ſeeds on a hot-bed, early in the ſpring. When the plants are fit to remove, each muſt have a ſeparate pot, and be aſſiſted by a freſh hot-bed, where they muſt be watered and ſhaded until they have taken root. From this time they may be hardened by degrees to the open air; and when this is effected, let them be turned out of the pots, with the mould at the roots, into ſome warm, fertile part of the garden, where they will flower, and perfect their ſeeds.

Titles.

This ſpecies is titled, *Ludvigia foliis alternis lanceolatis.* In the *Hortus Upſal.* it is termed, *Ludvigia capſulis cubicis apice perforatis*; in the *Hortus Cliffort. Ludvigia capſulis ſubrotundis.* Plukenet calls it, *Lyſimachia non pappoſa flore luteo majore, ſiliquâ caryophylloide minore, ex Virginia.* It grows naturally in Virginia.

Alternifolia.

Claſs and order in the Linnæan Syſtem; The characters.

Ludwigia is of the claſs and order *Triandria Monogynia*; and the characters are,

1. CALYX is a monophyllous, permanent perianthium, ſituated above the germen, and divided into four ſpear-ſhaped, ſpreading ſegments.

2. COROLLA is four obcordated, plane, patent, equal petals.

3. STAMINA are four ſhort, erect, awl-ſhaped filaments, with ſimple, oblong, erect antheræ.

4. PISTILLUM conſiſts of a four-cornered germen ſurrounded by the baſe of the calyx, a cylindrical ſtyle the length of the ſtamina, and an obſoletely, four-cornered, capitated ſtigma.

5. PERICARPIUM is a four-cornered, obtuſe capſule, crowned with the calyx, and containing four cells.

6. SEMINA. The ſeeds are numerous, and ſmall.

CHAP. CCVIII.

LUNARIA, MOON-WORT, or SATTIN-FLOWER.

OF this genus is that well-known flower in our gardens, called Honeſty.

The plant deſcribed.

The radical leaves are large, heart-ſhaped, oblong, indented, hairy, and grow on long, hairy footſtalks. Among theſe riſes the flower-ſtalk, to the height of about a yard; it is upright, firm, branching, hairy, often of a reddiſh colour, and garniſhed with leaves, which near the bottom are placed oppoſite, and grow alternately without any footſtalks. The flowers come out in cluſters from the ends and ſides of the branches; they are of a purpliſh-red colour, appear in May, and are ſucceeded by large, flat, elliptical, pellucid, ſattin pods, containing ripe ſeeds in Auguſt and September.

The ſattin whiteneſs of the pods, together with their ſoftneſs to the touch, has occaſioned this ſpecies being frequently called the Sattin Flower; and by this name only it is known in many parts.

Variety.

There is a variety of this ſpecies with larger pods, and paler-coloured flowers.

The pods of both the ſorts being broad, numerous, tranſparent, and having a ſingular as well as beautiful look, are chiefly coveted for ornamenting of rooms, by placing whole bunches of them in chimneys, &c. where they have a pretty effect.

Culture.

This plant is propagated by ſowing the ſeeds, ſoon after they are ripe, in any ſoil or ſituation; for nothing of that ſort comes amiſs to them. After they have once flowered and ſhed their ſeeds, they will propagate themſelves, coming up in plenty all over the garden: Nay, in neglected gardens they will riſe among the weeds, and exhibit their ſattin-like, broad, flat, pellucid pods, as if they belonged to the ſame fraternity. In ſhort, when they have once taken poſſeſſion of a place, they will afford you more plants than you can wiſh, diſdain the company of weeds, and require no trouble, except pulling them up where they appear in improper places, and where they come up too cloſe.

Titles. Annua.

Honeſty is termed, *Lunaria foliis oppoſitis.* John Bauhine calls it, *Lunaria major, ſiliquâ rotundiore*; alſo, *Lunaria major ſiliquâ longiore*; Caſpar Bauhine, *Viola lunaria major ſiliquâ rotundâ*; and Dodonæus, *Viola latifolia.* It grows naturally in Germany.

CHAP. CCIX.

LUPINUS, LUPINE.

THE extremely eaſy culture of the Lupine, the extraordinary beauty of the leaves on their firſt appearance, and elegance of the flowers, make them as deſirable Annuals as moſt we have in our gardens; and the remarkable fine fragrance of that ſpecies called the Yellow Lupine, joined to the above properties, entitles it to the preference of any of the Annual tribe. The variety alſo they cauſe from the different ſorts is not inconſiderable; for there are,

Species.

1. The Common Yellow Lupine.
2. The Little Blue Lupine.
3. The Narrow-leaved Taller Blue Lupine.
4. The White Lupine.
5. The Giant Lupine.
6. The Cape Lupine.

Deſcription of Common

1. The Common Yellow Lupine riſes with a round, hairy, branching ſtalk, to the height of about a foot and a half. The leaves are digitated, and each of them is compoſed of about nine oblong, narrow, pointed lobes, which join at their baſe to the footſtalk, and are hoary on both ſides. The flowers are large, and ornament the ends of the branches in looſe, whorled ſpikes; their colour is a bright-yellow, and their fragrance is equal to, if not ſuperior to any thing of the flowering tribe: It is ſo pure a ſweet, ſo inoffenſive, and exhilarating, that were I obliged to cultivate an Annual, and one only, it ſhould be the Yellow Lupine.

and Little Blue Lupine deſcribed.

2. Little Blue Lupine. This plant claims as little notice as any of the ſorts, from the extreme ſmallneſs of the flowers. The ſtalk is upright, firm, channelled, and will grow to be two feet and a half high. The leaves are digitated, and each is compoſed of about ſix or ſeven oblong lobes; theſe join at their baſe, are a little hoary, and their colour is a blueiſh green. The flowers are produced from the ends of the branches in ſhort ſpikes; they are of a light-blue colour, ſmall, and are ſo often hid among the

leaves as to be unnoticed. Theſe produce, however, more ſeeds than any of the ſorts; they are almoſt round, of a dark-brown colour, and variegated with a darkiſh-purple.

Narrow-leaved Taller Blue,

3. Narrow-leaved Taller Blue Lupine. This plant riſes with an upright, firm, branching ſtalk near the top, to the height of about a yard. The leaves are large, digitated, and grow upon long footſtalks; each of them is compoſed of about nine or ten oblong, obtuſe lobes, which join at the baſe, and their colour is a blueiſh-green. The flowers are blue, terminate the branches in whorled ſpikes, and are ſucceeded by plenty of roundiſh, variegated ſeeds.

White,

4. White Lupine hath a thick, branching, hairy ſtalk, which will grow to about two feet high. The leaves are digitated, and each is compoſed of ſeven or eight oblong, hairy lobes, which join at the baſe; they are downy, and placed on long, hairy footſtalks on the branches. The flowers are large and white; they terminate the branches in looſe ſpikes, and are ſucceeded by whitiſh, flat ſeeds.

and Giant Lupine deſcribed.

5. Giant Lupine will often grow to be four feet high. The ſtalk is thick, downy, hairy, and branching. The leaves are digitated, and grow on thick, hairy footſtalks; the lobes are hairy, narrow at the baſe where they join, broader upwards, and are of a ſilvery-white colour. The flowers are large, of a beautiful blue colour, and often ſtained with red; they grow in whorls, form looſe ſpikes at the ends of the branches, and are ſucceeded by large, broad, hoary pods, each containing about three large, compreſſed ſeeds.

Variety.

The Roſe Lupine is a variety of this ſpecies, and differs from it only in the flowers being of a pale fleſh-colour. This is a ſort which is by many eſteemed; but as Nature has denied them fragrance, and as they have a rambling look, they muſt yield to the Yellow Lupine in point of precedence.

Cape Lupine deſcribed.

6. Cape Lupine. This hath an upright, branching, hairy ſtalk; but it differs from the others, inaſmuch as the leaves are ſimple; theſe are of an oblong figure, hairy, and have a downy look. The flowers are produced in whorled ſpikes from the ends of the branches, and are ſucceeded by downy pods, containing the ſeeds.

Culture.

All theſe ſorts are eaſily propagated by ſowing the ſeeds in the ſpring. They ſhould be ſown at different times, to continue the ſucceſſion of flowering; though the firſt ſowing ſhould not be too early, unleſs you have plenty of ſeeds to ſpare; becauſe if much rain happens, it rots them, and your trouble and expectations are deſtroyed. But as they never perfect their ſeeds if the ſowing is deferred too long, it will be proper to let ſome be ſown for the ſake of gathering the ſeeds, as well as the beauty of the flowers, the latter end of March. Let this be done in a dry, warm border; and if rain does not happen immediately after to rot them, they will afford you ſeeds enough. Some ſeeds alſo ſhould be ſown in the autumn, in a dry, warm border; and they will come up and often ſtand the winter well. Theſe plants will flower early the ſummer following, and be ſure to afford you plenty of good ſeeds.

The Cape Lupines ſhould be ſown in a hot-bed, to bring them forward; and out of this bed they ſhould not be removed. They ſhould have a deep frame, and the plants muſt be well protected until all danger of bad weather is over; they muſt all along have air in plenty, and be frequently watered, which will cauſe them to flower earlier and ſtronger.

Virtues of the ſeeds of the White Lupine.

The ſeeds of the White Lupine are uſed in medicine; and a mixture of *Alumen Saccharinum*, the juice of Lemon, and the flowers of theſe ſeeds, afford an ointment much eſteemed by ſome ladies, and is uſed to ſmooth the face, ſoften the features, and make the few charms they poſſeſs a little powerful.

The Little Blue Lupine affords amazing encreaſe, far beyond that of our common Houſe Peaſe and Beans; inſomuch that in Italy they are frequently uſed as manure for the land. This is done firſt by parboiling them, to prevent their growth, and then ſowing them at the rate of about ſixteen buſhels to an acre. This ſort is alſo ſowed; and when the plants begin to flower, they are cut down and ploughed in, to improve the land.

Titles.

1. The Common Yellow Lupine is titled, *Lupinus calycibus verticillatis appendiculatis: labio ſuperiore bipartito, inferiore tridentato.* Caſpar Bauhine calls it, *Lupinus ſylveſtris, flore luteo*; and John Bauhine, *Lupinus flore luteo, ſemine compreſſo vario.* It grows naturally in Sicily. Luteus.

2. Little Blue Lupine is, *Lupinus calycibus ſemiverticillatis appendiculatis: labio ſuperiore bifido, inferiore ſubtridentato.* Caſpar Bauhine calls it, *Lupinus ſylveſtris, flore cæruleo*; and John Bauhine, *Lupinus ſylveſtris, flore purpureo, ſemine rotundo vario.* It grows naturally among corn in Italy, Sicily, and the South of France. Varius.

3. Narrow-leaved Taller Blue Lupine is, *Lupinus calycibus alternis appendiculatis: labio ſuperiore bipartito, inferiore integro.* Ray calls it, *Lupinus anguſtifolius cæruleus elatior*; and Rivinus, *Lupinus flore cæruleo minore.* This grows naturally among corn in Italy and Spain. Angusti=folius.

4. White Lupine is, *Lupinus calycibus alternis inappendiculatis: labio ſuperiore integro, inferiore tridentato.* In the *Hortus Cliffort.* it is called, *Lupinus caule compoſito.* Caſpar Bauhine calls it, *Lupinus ſativus, flore albo*; and Rivinus, *Lupinus flore albo.* Its natural place of growth is not certain. Albus.

5. Giant Lupine is, *Lupinus calycibus alternis appendiculatis: labio ſuperiore bipartito, inferiore tridentato.* Caſpar Bauhine calls it, *Lupinus peregrinus major, ſive villoſus, cæruleus major*; and John Bauhine, *Lupinus exoticus hirſutiſſimus.* It grows naturally in Arabia, Spain, and the Mediterranean iſlands. Hirsutus.

6. Cape Lupine is, *Lupinus calycibus alternis appendiculatis, foliis ſimplicibus oblongis villoſis.* It grows naturally at the Cape of Good Hope. Integri=folius.

C H A P. CCX.

LYCOPSIS.

Species. THE Annuals of this genus are,

1. Small Wild Buglofs.
2. Narrow-leaved Oriental Buglofs.
3. Hungarian Buglofs.
4. Cretan Buglofs.

Deſcription of Small Wild, 1. Small Wild Bugloſs. The root is ſmall, and white. The ſtalk is ſlender, rough, divides into a few branches near the top, and is a foot and a half high. The leaves are ſpear-ſhaped, ſinuated, rough, hairy, and grow alternately on the ſtalk. The flowers are produced from the ends and ſides of the branches on ſhort footſtalks; they are ſmall, and of a blue colour, appear in June, and are occaſionally to be met with until the end of ſummer.

Narrow-leaved Oriental, 2. Narrow-leaved Oriental Bugloſs. The ſtalk is ſlender, rough, divides into a few branches near the top, and is a foot and a half high. The leaves are oval, narrow, undivided, hairy, and rough to the touch. The flowers are produced from the ends and ſides of the branches on ſlender footſtalks; they are ſmall, and of a blue colour; they appear in July and Auguſt, and the ſeeds ripen in September.

Hungarian, 3. Hungarian Bugloſs. The ſtalk is eight or ten inches long, and lies on the ground. The leaves are broad at the baſe, diminiſh gradually to a point, are entire, hoary, and grow alternately. The flowers are produced from the tops of the ſtalks; they are very ſmall, and of a dark duſky-brown or black colour; they appear in June and July, and the ſeeds ripen in Auguſt.

and Cretan Bugloſs. 4. Cretan Bugloſs. The radical leaves are oblong, narrow, rough, indented, and covered with many white protuberances. The ſtalks are ſix or eight inches long, lie on the ground, and are adorned with many narrow, bullated leaves, which bend backward, and are placed alternately on them. The flowers are produced from the ends and ſides of the branches; they are of a blue colour, and elegantly variegated; they appear in July and Auguſt, and the ſeeds ripen in Auguſt and September.

Culture. Theſe plants are propagated by ſowing the ſeeds, ſoon after they are ripe, in almoſt any ſoil or ſituation. After they come up, the culture they require will be only to thin them where they are too cloſe, keep them free from weeds, and after they have once flowered and ſcattered their ſeeds, plants enough for a ſucceſſion will ariſe without further trouble.

Titles. 1. Small Wild Bugloſs is titled, *Lycopſis foliis lanceolatis hiſpidis, calycibus floreſcentibus erectis.* Arvensis. Caſpar Bauhine calls it, *Bugloſſum minus ſylveſtre*; and Gerard, *Bugloſſum ſylveſtris minor.* It grows naturally in fields and by way-ſides in England, and moſt countries of Europe.

2. Narrow-leaved Oriental Bugloſs is, *Lycopſis foliis ovatis integerrimis ſcabris, calycibus erectis.* Orientalis. Tournefort calls it, *Bugloſſum orientale anguſtifolium, flore parvo cæruleo.* It grows naturally in the Eaſt.

3. Hungarian Bugloſs is, *Lycopſis foliis integerrimis, caule proſtrato, calycibus fruteſcentibus inflatis pendulis.* Vesicaria. Rivinus calls it, *Echioides flore pullo*; and Moriſon, *Bugloſſum procumbens annuum pullo minimo flore.* It grows in the ſouth-eaſt parts of Europe.

4. Cretan Bugloſs is, *Lycopſis foliis repandis dentatis calloſis, caule decumbente, corollis cernuis.* Variegata. Van Royen calls it, *Lycopſis foliis repando-dentatis*; and Moriſon, *Bugloſſum annuum humile, bullatis foliis, flore cæruleo eleganter variegato.* It grows naturally in Crete.

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C H A P. CCXI.

LYSIMACHIA, LOOSESTRIFE.

Species. OF this genus there are,

1. Small Glaucous Oriental Looſeſtrife.
2. Narrow-leaved Dark-purple-flowered Oriental Looſeſtrife.

Small Glaucous Oriental Looſeſtrife deſcribed. 1. Small Glaucous Oriental Looſeſtrife. The ſtalk is upright, of a greyiſh colour, and about ſix or eight inches high. The leaves are ſpear-ſhaped, narrow, ſmooth, glaucous, and grow oppoſite by pairs. The flowers come out in ſhort ſpikes from the tops of the ſtalks; they are of a reddiſh-purple colour, appear in July and Auguſt, and the ſeeds ripen in the autumn.

Culture. This plant is an Annual, and the ſeeds muſt be ſown, ſoon after they are ripe, in the autumn, or early in the ſpring, where they are to remain.

When they come up, they will require no trouble, except thinning them where they are too cloſe, keeping them clean from weeds, and watering them in dry weather. They will then flower ſtrong, and perfect their ſeeds.

Narrow-leaved Dark-purple Oriental Looſeſtrife deſcribed.

2. Narrow-leaved Dark-purple Oriental Looſeſtrife. The ſtalk is upright, and about a foot high. The leaves are ſpear-ſhaped, narrow, pointed, ſmooth, of a bright-green colour, and grow oppoſite by pairs. The flowers come out in looſe, oval ſpikes from the ends of the ſtalks, are of a dark-purple colour, and very beautiful; they appear in July and Auguſt, and the ſeeds ripen in the autumn.

Culture of it.

This ſpecies is a Biennial, and the ſeeds muſt be ſown in the autumn, as ſoon as they are ripe; for if they are kept until the ſpring, they often lie a whole year before they make their appearance. When they come up, they muſt be thinned where they are too cloſe, be kept clean from weeds, and watered in dry weather all ſummer. In the autumn, a ſhare of them may be drawn out of the beds, and tranſplanted to other places; whilſt the others ſhould be left undiſturbed in the beds, at about a foot diſtance from each other. The ſummer following they will flower ſtrong, and perfect their ſeeds.

Titles.

Ephemerum.

1. The firſt ſpecies is entitled, *Lyſimachia racemis ſimplicibus terminalibus, petalis obtuſis, ſtaminibus corollâ brevioribus.* Van Royen calls it, *Lyſimachia racemo terminali, foliis lanceolato-linearibus*; Buxbaum, *Lyſimachia ſpicata purpurea minor*; and Tilli, *Lyſimachia orientalis minor, foliis glaucis.* It grows naturally in Media.

Atropurpurea.

2. The ſecond ſpecies is, *Lyſimachia ſpicis terminalibus, petalis lanceolatis, ſtaminibus corollâ longioribus.* In the *Hortus Cliffort.* it is termed, *Lyſimachia foliis lanceolato-linearibus, caulem & ramos ſpicâ ovatâ terminante.* Van Royen calls it, *Lyſimachia foliis lanceolato-linearibus, ſpicis terminalibus*; and Commeline, *Lyſimachia orientalis anguſtifolia.* It grows naturally in the Eaſt.

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CHAP. CCXII.

MALVA, The MALLOW.

THE chief Annuals of this genus are diſtinguiſhed among Gardeners by the names of,

Species.

1. Curled-leaved Mallow.
2. Chineſe Mallow.
3. Ægyptian Mallow.
4. French Mallow.
5. Peruvian Mallow.
6. Carolina Mallow.
7. Dwarf American Mallow.
8. Ivy-leaved Mallow.
9. Spaniſh Mallow.
10. Limeſe Mallow.
11. Indian Mallow.

Deſcription of the Curled-leaved and

1. The Curled-leaved Mallow derives its greateſt beauty from its leaves, and the procerity of its growth; for it will ariſe with an upright ſtalk to the height of eight or ten feet. The leaves are large, of a pleaſant-green colour, and form a very pictureſque figure. The main ſtalk is ſtrong enough to ſupport it in almoſt any ſituation; for I have ſometimes had it as thick as a moderate hedge-ſtake. It will be chiefly concealed from view, a foot or two above the ground, by the number of leaves that garniſh the ſide-ſhoots in plenty. They are moſt beautifully furbelowed, and attract the attention of all beholders. The flowers are ſmall, grow from the wings of the ſtalks in cluſters, and are chiefly concealed among the leaves; ſo that on their account few perſons would think the plant worth propagating. It will be in blow in July. A few of this ſpecies is ſufficient for any garden; unleſs you chuſe a row of them to form the appearance of a hedge, which at the back of a large border will look very pretty

Chineſe, Mallow.

2. Chineſe Mallow. The ſtalk is upright, ſingle, herbaceous, and about a foot and a half high. The leaves are angular, roundiſh, and of a pleaſant-green colour. The flowers are exceeding ſmall, of a white colour, and ſurround the ſtalk in cluſters; they appear in June and July, and the ſeeds ripen in the autumn.

Uſe of this laſt ſpecies.

This plant is cultivated by ſome perſons as a pot-herb; though it is generally allowed by moſt who have tried it, to be much inferior to the herbs uſed for that purpoſe.

Deſcription of Ægyptian,

3. The Ægyptian Mallow. The ſtalks are ſlender, weak, and about a foot in length. The leaves are ſhaped like the hand, of a pleaſant-green colour, have their lobes indented, grow on long footſtalks, and ornament the plant in an agreeable manner. The flowers come out in cluſters from the tops of the ſtalks, but at the ſides they grow ſingly; they are ſmall, of a blue colour, and make but a poor ſhow, the petals being ſmaller than the calyx.

French,

4. French Mallow. This ſpecies has a trailing, branching ſtalk, about a foot and a half in length. The leaves are divided into five parts, which parts are alſo deeply divided at their ſides. The flowers are blue, ſtand upon long footſtalks, are produced in June, and their ſeeds ripen in the autumn.

and the Peruvian Mallow.

5. The Peruvian Mallow ariſes with an upright ſtalk to the height of about two or three feet. The leaves are large, and compoſed of ſeveral acutely-ſerrated lobes. The flowers are produced in June from the wings of the leaves in cloſe ſpikes; they are of a pale-blue colour, but are ſmall, and have little beauty.

Variety

There is a variety of this ſpecies with purple flowers.

Carolina

6. Carolina Mallow. The ſtalks are ſlender, lie on the ground, and often ſtrike root at the joints. The leaves are roundiſh, grow on ſlender footſtalks, and have their edges cut into many ſegments. The flowers come out from the ſides of the ſtalks on ſlender footſtalks; they are ſmall, of a red-brick colour, appear in July, and the ſeeds ripen in the autumn.

and Dwarf American Mallow deſcribed.

7. Dwarf American Mallow. The ſtalk is ſlender, woolly, branching a little, and about a foot high. The leaves are heart-ſhaped, downy, indented on their edges, and grow alternately on the branches. The flowers come out in ſpikes

from the ends of the ſtalks, but at the ſides they grow ſingly; they are ſmall, of a pale-yellow or lemon colour, appear in July, and the ſeeds ripen in the autumn.

Deſcription of Ivy-leaved,

8. Ivy-leaved Mallow. The ſtalk is herbaceous, erect, round, ſmooth, firm, and four or five feet high. The leaves are large, ſmooth, obtuſe, and much reſemble ſome of thoſe of the Common Ivy. The flowers are numerous, large, and of a beautiful red colour; they appear in July, and the ſeeds ripen in the autumn.

Spaniſh,

9. Spaniſh Mallow. The ſtalk is upright, firm, and three or four feet high. The leaves are nearly round, indented on their edges, and of a dark-green colour. The flowers are numerous, very large, of a beautiful red colour, appear in July, and the ſeeds ripen in the autumn.

Limeſe,

10. Limeſe Mallow. The ſtalk is herbaceous, erect, and about three feet high. The leaves are large, compoſed of ſeveral ſerrated lobes, and grow on long footſtalks. The flowers come out in ſmall ſpikes from the wings of the leaves, appear in July, and the ſeeds ripen in the autumn.

and Indian Mallow deſcribed.

11. Indian Mallow. The ſtalks are upright, herbaceous, and about two feet high. The leaves are heart-ſhaped, rough, and obtuſe. The flowers come out in cloſe ſpikes from the wings of the leaves; they are ſmall, of a yellow colour, appear in July, and the ſeeds ripen in the autumn.

Culture.

The method of propagating all theſe ſpecies is ſo plain, that it cannot be miſſed. Sow the ſeeds how you will, and in what ſoil you pleaſe, in March, and they will come up, and flower before the end of the ſummer.

If you chuſe to have them flower early, ſow the ſeeds in the autumn, and the plants will come up, and be hardy enough for our winters. In the ſpring they will ſoon become very ſtrong, and will flower in June.

After this, without any art or trouble, they will propagate themſelves; nay, the greateſt trouble will be to keep them from overſpreading the ground; for they will ſcatter their ſeeds, and plants will come up in ſuch plenty, that they muſt be hoed down like weeds. When this is the caſe, let here-and-there one of the largeſt ſpecies, particularly thoſe of the Curled-leaved Mallow, remain in the places you would chuſe them to be; and they will be larger and earlier plants than thoſe raiſed from ſeeds ſown in the ſpring.

As to the Dwarf American Mallow, and the more tender ſpecies, though they will ſcatter their ſeeds and come up, yet they are not ſo prone to increaſe, without art, in ſuch great plenty as the others. Let theſe, therefore, be ſown in a hot-bed early in March, and they will ſoon come up, after which let the beds be uncovered. When they are about three inches high, plant them out about a foot and a half aſunder in the places where they are deſigned to blow.

Titles.

1. The Curled-leaved Mallow is titled, *Malva caule erecto, foliis angulatis criſpis, floribus axillaribus glomeratis.* Dodonæus calls it, *Malva criſpa.* It grows naturally in China and Syria. Criſpa.

2. The Chineſe Mallow is, *Malva caule erecto, foliis angulatis, floribus axillaribus glomeratis ſeſſilibus, calycibus ſcabris.* Boerhaave calls it, *Malva Sinenſis erecta, floſculis albis minimis.* It is a native of China. Verticil=lata.

3. Ægyptian Mallow is, *Malva foliis palmatis dentatis, corollis calyce minoribus.* It grows naturally in Ægypt. Ægyp=tiaca.

4. The French Mallow is, *Malva foliis radicalibus quinquepartitis trilobis linearibus, pedunculis folio caulino longioribus, caule procumbente.* Tournefor=tiana.

5. Peruvian Mallow is, *Malva caule erecto herbaceo, foliis lobatis, ſpicis ſecundis axillaribus, ſeminibus denticulatis.* It grows common in Peru. Peruvi=ana.

6. The Carolina Mallow is, *Malva caule repente, foliis multifidis.* It is a native of Carolina. Caroli=niana.

7. The American Mallow is, *Malva foliis cordatis crenatis, floribus lateralibus ſolitariis terminalibus ſpicatis.* Breynius calls it, *Althæa Americana pumila, flore luteo ſpicato.* It grows common in the Weſt-Indies. Ameri=cana.

8. Ivy-leaved Mallow is, *Malva caule erecto herbaceo, foliis quinquelobatis obtuſis, pedunculis petioliſque glabriuſculis.* Caſpar Bauhine calls it, *Malva hederaceo folio:* alſo, *Malva folio ficûs altera.* Dalechamp names it, *Malva major tertia.* It grows naturally in Italy, Spain, and Portugal. Mauri=tiana.

9. Spaniſh Mallow is, *Malva caule erecto, foliis ſemiorbiculatis crenatis, calyce exteriore diphyllo.* Plukenet calls it, *Malva rotundifolia glabra ex Hiſpaniâ, flore amplo rubello.* It is a native of Spain. Hiſpani=ca.

10. Limeſe Mallow is, *Malva caule erecto herbaceo, foliis lobatis, ſpicis ſecundis axillaribus, ſeminibus lævibus.* It is a native of Lima. Limen=ſis.

11. Indian Mallow is, *Malva foliis cordatis obtuſis ſcabris, floribus ſeſſilibus glomeratis arillis denis muticis crenulatis.* Plukenet calls it, *Malva Indica, abutili ſubrotundo folio, flore luteo ſpicato.* It grows naturally in India. Gange=tica.

Claſs and order in the Linnæan Syſtem. The characters.

Malva is of the claſs and order *Monadelphia Polyandria*; and the characters are,

1. Calyx is a double perianthium. The exterior is compoſed of three acute, permanent leaves. The interior is of one leaf, which is divided at the brim into five broad, permanent ſegments.

2. Corolla conſiſts of five obcordated, præmorſe, plane petals, which coaleſce at their baſe.

3. Stamina are numerous filaments which join at the bottom, and form a cylinder: Above they ſpread open, and are inſerted in the corolla. Their antheræ are reniforme.

4. Pistillum conſiſts of an orbicular germen, and a ſhort, cylindric ſtyle, with numerous briſtly ſtigmas the length of the ſtyle.

5. Pericarpium is a round, depreſſed head, faſtened to the column.

6. Semina are ſingle, and reniforme.

CHAP.

CHAP. CCXIII.

MARTYNIA.

THERE are only two ſpecies of this genus yet known, one of which is a Perennial. The other is of ſhort duration, and is called Annual *Martynia.*

Annual Martynia deſcribed.

The ſtalk is robuſt, hairy, branching, and three or four feet high. The leaves are large, oval, oblong, angular, obtuſe-pointed, entire, hairy, and poſſeſſed of a viſcous, clammy matter. The flowers come out from the diviſions and ends of the branches in ſhort ſpikes; they are very large, of a red or purple colour, appear in July, and continue in ſucceſſion until the end of autumn, when good ſeeds from the firſt-blown flowers may be collected, and at which time the plant decays.

Culture.

This ſpecies is raiſed by ſowing the ſeeds, early in the ſpring, in pots filled with rich garden-mould. The pots muſt be then plunged up to the rims in a bark bed; and a ſlight ſprinkling of water ſhould now-and-then be thrown upon the mould, the more effectually to facilitate the growth of the ſeeds. In this bed they muſt remain, with all careful management, until they are fit to remove; when each plant ſhould have a ſeparate pot, ſhould be plunged again into a bark-bed, be well-watered, and kept conſtantly ſhaded until it has taken root. After this, more air muſt proportionally be given them, eſpecially as the hot weather ſhall make it neceſſary. When the roots of the plants have filled theſe pots, they ſhould be ſhifted into larger, at which time they muſt be plunged into a good bark-bed; or rather, if there be a ſtove, they ſhould be plunged into the bark-bed there, that their branches may have room to extend themſelves. Being thus ſituated, and duly watered, they will flower ſtrong, continue in beauty three or four months, and afford good ſeeds for a ſucceſſion.

Titles. Annua.

This ſpecies is titled, *Martynia caule ramoſo, foliis integerrimis angulatis.* In the *Hortus Cliffort.* it is termed, *Martynia foliis dentatis.* Houſtoun calls it, *Martynia annua villoſa & viſcoſa, folio ſubrotundo, flore magno rubro.* It grows naturally in New Spain.

Claſs and order in the Linnæan Syſtem. The characters.

Martynia is of the claſs and order *Didynamia Angioſpermia*; and the characters are,

1. CALYX is a withering perianthium cut into five parts.

2. COROLLA is one bell-ſhaped petal. The tube is patent, ventricoſe, and gibbous at the baſe, where there is found a honey-juice. The limb is ſmall, and cut into five obtuſe and nearly equal ſegments.

3. STAMINA are four filiforme, incurved filaments, with connivent, connected antheræ. There is a rudiment of a fifth filament between the upper ſtamina.

4. PISTILLUM conſiſts of an oblong germen, a ſhort ſimple ſtyle the length of the ſtamina, and a bilobed ſtigma.

5. PERICARPIUM is a ligneous, oblong, gibbous, quadrangular, biſulcated, acuminated capſule, containing five cells, and opening in two directions at the top.

6. SEMINA. The ſeeds are oblong.

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CHAP. CCXIV.

MATRICARIA, FEVERFEW.

THERE are two Annuals of this genus, called,

Species.

1. Corn Feverfew.
2. Sweet-ſcented Feverfew.

Deſcription of Corn

1. Corn Feverfew. The ſtalks are ſlender, divide into a few branches almoſt from the bottom, and grow to about a foot long. The leaves are large, finely divided into a multitude of narrow parts, and grow alternately from the ſides of the branches. The flowers come out from the ends and ſides of the branches on ſuitable footſtalks; the rays are ſpreading, and of a pale-white colour, but the diſk is yellow: They appear in June, and often continue in ſucceſſion the greateſt part of the ſummer.

and Sweet-ſcented Feverfew.

2. Sweet-ſcented Feverfew. The ſtalk is weak, branching, and about a foot long. The leaves are finely divided in the manner of Chamomile, and, when bruiſed, emit an agreeable odour. The flowers come out from the ends and ſides of the branches on ſuitable footſtalks; the rays are white and deflexed, but the diſk is yellow and prominent: They are finely ſcented, and appear in ſucceſſion great part of the ſummer.

Culture.

Theſe ſpecies are raiſed by ſowing the ſeeds in the autumn ſoon after they are ripe, or in the ſpring. When they come up, they will require no trouble, except thinning them to proper diſtances, and keeping them clean from weeds. After they have flowered, the ſeeds will ſoon ripen, and a ſcattering will grow, and maintain the ſucceſſion without further trouble.

Titles. Chamomilla.

1. The firſt ſpecies is titled, *Matricaria receptaculis conicis, radiis patentibus, ſeminibus nudis, ſquamis calycinis margine æqualibus.* In the *Hortus*

Cliffort. it is termed, *Matricaria foliis ſupradecompoſitis ſetaceis, pedunculis ſolitariis.* Caſpar Bauhine calls it, *Chamæmelum vulgare, ſ. Leucanthemum Dioſcoridis*; and Lobel, *Anthemis vulgaris.* It grows naturally in cultivated fields in England, and moſt parts of Europe.

2. The ſecond ſpecies is, *Matricaria receptaculis conicis, radiis deflexis, ſeminibus nudis, ſquamis calycinis margine æqualibus.* Vaillant calls it, *Matricaria leucanthemos annua ſuaveolens, chamæmeli folio, ovariis albicantibus.* It grows chiefly in ſandy places in England and moſt parts of Europe.

Suaveo=
=lens.

CHAP. CCXV.

MEDICAGO, MEDICK.

Species.

THE Annuals of this genus are,
1. Melilot Trefoil.
2. Round-podded Medick.
3. Radiated Trefoil.
4. Polymorphous Trefoil.

Melilot Trefoil deſcribed.

1. Melilot Trefoil. The ſtalks of this ſpecies are ſlender, herbaceous, about ſix or eight inches long, and lie on the ground. The leaves are trifoliate, ſmall, cut on their edges, and grow on footſtalks, on each ſide of which a ſmall leaf is ſituated. The flowers come out in ſhort, oval ſpikes from the ends and ſides of the ſtalks near the top, growing on longiſh footſtalks; they are of a yellow colour, appear in May, and continue in ſucceſſion all ſummer, before the end of which ripe ſeeds from the firſt-blown flowers may be collected.

Variety.

There is a variety of this ſpecies of lower growth, producing both ſmaller leaves and flowers. It is often called Hop Trefoil, from the flowers turning to a browniſh colour, and aſſuming the appearance of hops.

Round-podded Medick deſcribed.

2. Round-podded Medick. The ſtalks are herbaceous, ſlender, a foot and a half long, and lie on the ground. The leaves are pinnated, each being compoſed of two pair of oval, ſpear-ſhaped folioles, terminated by an odd one; they are hoary, and grow alternately at the joints. The flowers grow four or five together on long footſtalks; they come out from the ends and ſides of the branches, are of a golden-yellow colour, make their appearance in June and July, and are ſucceeded by roundiſh, hairy, indented pods, containing ripe ſeeds in September.

Deſcription of Radiated Trefoil

3. Radiated Trefoil. The ſtalks are ſlender, weak, herbaceous, and hardly a foot long. The leaves are ternate, ſmall, and a little hoary. The flowers come out from the ends and ſides of the ſtalks, growing four or five together on a footſtalk; they are of a yellow colour, appear in June and July, and are ſucceeded by kidney-ſhaped, ſtriated, indented pods, containing ripe ſeeds in September.

and Polymorphous Trefoil.

4. Polymorphous Trefoil. This is a very extenſive ſpecies, and comprehends all thoſe plants which are known in gardens by the names of Snails, Hedgehogs, &c. The Heart Trefoil of our meadows, fields, and paſtures, belongs to it. The Prickly Syrian Trefoil, the Jagged-leaved Hedgehogs, Jagged-leaved Snails, Hairy Medick, Long Crooked-podded Trefoil, Smooth Medick, Cluſtered-fruited Medick, Turbinated Medick, Round Black-podded Medick, Single-podded Medick, Double-podded Medick, Dwarf Hedgehogs, &c. are of this ſpecies. The ſtalks of all of them are herbaceous, procumbent, branching, in many diffuſe, and longer or ſhorter according to the varieties. The leaves are trifoliate, and larger or ſmaller according to the ſorts. The ſtipulæ are indented, and in ſome ſorts ciliated. The flowers are yellow, papilionaceous, come out early in the ſummer, and continue in ſucceſſion to the end of autumn; they are ſucceeded by fruit, known by the names of Snails, Hedgehogs, &c. as above.

Method of propagating theſe ſorts.

All theſe ſorts are propagated by ſowing the ſeeds in the ſpring. Any common garden-mould made fine will be ſuitable for them; and they ſhould be ſown in patches, at any deſired diſtance, putting a very few ſeeds of each ſort into the ground nearly together, and covering them over with ſcarcely a quarter of an inch depth of mould. When they come up, they muſt be thinned according to the ſorts. The ſmalleſt ſorts ſhould not have more than two plants left together; and of the moſt diffuſe kinds, all the plants in a place ſhould be drawn out, except one; or their branches will ſo run into and crowd one another, that the fruit will be leſs perfect, and the beauty of the plant impaired.

If the ſeeds are ſown the end of March, they will flower in June; but in order to continue the ſucceſſion more perfect, a ſecond ſowing ſhould be made the end of April. Nevertheleſs, as it is the ſingularity of the fruit, not the beauty of the flowers, that is principally regarded, one ſowing at the end of March, or the beginning of April, is by moſt perſons thought ſufficient.

Culture of the firſt three ſpecies.

The firſt three ſpecies are propagated in the ſame manner; and all the ſorts frequently produce good plants from caſual ſeeds, which, falling ripe from the plants in the autumn, grow, and flower early the ſummer following.

Titles.

Lupulina.

1. Melilot Trefoil is titled, *Medicago ſpicis ovalibus, leguminibus reniformibus monoſpermis, caule procumbente.* In the *Hortus Cliffort.* it is termed, *Trifolium leguminibus ſpicatis reniformibus nudis monoſpermis, caule procumbente.* Caſpar Bauhine calls it, *Trifolium pratenſe luteum, capitulo breviore*; Fuchſius, *Trifolium pratenſe luteum*; Ray, *Medica polycarpos fructu minore compreſſo ſcabro*; Gerard, *Trifolium luteum lupulinum*; and Parkinſon, *Trifolium montanum lupulinum.* It grows naturally in ſandy meadows, fields, and paſtures, in England and moſt parts of Europe.

Circin=
=nata

2. Round-podded Medick is, *Medicago leguminibus reniformibus margine dentatis, foliis pinnatis.* Caſpar Bauhine calls it, *Loto affinis ſiliquis hirſutis circinatis,* It grows naturally in Italy and Spain.

3. Radiated

Radiata. 3. Radiated Trefoil is, *Medicago leguminibus reniformibus margine dentatis, foliis ternatis.* Moriſon calls it, *Medicago annua, ſiliquâ falcatâ ſtriatâ*; Caſpar Bauhine, *Trifolium ſiliquâ falcatâ*; and Lobel, *Lunaria radiata Italorum.* It grows naturally in Italy.

Poly=morpha. 4. Polymorphous Trefoil is, *Medicago leguminibus cochleatis, ſtipulis dentatis, caule diffuſo.* Caſpar Bauhine calls it, *Trifolium cochleatum, fructu nigro hiſpido.*

The numerous varieties of this ſpecies ſtand in authors with the following titles:

Orbicularis. Medicago leguminibus ſolitariis cochleatis compreſſis planis, ſtipulis ciliatis, caule diffuſo. Sauv. Monſp. 186. *Medica Major dicarpos capſulâ compreſſâ orbiculatâ nigrâ planâ oris criſpis.* Moriſ. Hiſt. II. p. 152, ſ. II. t. xv. f. 1. *Medica orbiculata.* Bauh. Hiſt. II. p. 384. *Trifolium cochleatum ſ. ſcutellatum, folio latiore, fructu minuto obtuſo.* Bauh. Pin. 329, Prodr. 140.

Scutellata. Medica cochleata major dicarpos, capſulâ rotundâ globoſâ ſcutellatâ. Moriſ. Hiſt. II. p. 152. ſ. II. t. xv. f. 4. *Medica ſcutellata.* Bauh. Hiſt. III. p. 384. *Trifolium cochleatum, fructu latiore.* Bauh. Pin. 329.

Tornata. Medica tornata major & minor lenis. Park. Theatr. 1116.

Turbinata. Medicago fructu turbinato. Sauv. Monſp. 187. *Medica dicarpos, fructûs capſulâ turbinatâ rugoſâ.* Moriſ. Hiſt. II. p. 153. *Medica magna turbinata.* Bauh. Hiſt. II. p. 385. *Trifolium cochleatum turbinatum, fructu compreſſo oblongo.* Bauh. Pin. 329.

Muricata. Medica cochleata dicarpos, capſulâ ſpinoſâ rotundâ minore. Moriſ. Hiſt. II. p. 153, ſ. II. t. xv. f. 11.

Arabica. Medica cochleata minor polycarpos annua, capſulâ majore albâ, folio cordato maculâ fuſcâ. Moriſ. Hiſt. II. p. 144. ſ. II. t. xv. f. 17. *Medica Arabica.* Cam. Hort. xcvii. t. 27. *Trifolium cochleatum, folio maculato cordato.* Bauh. Pin. 329.

Coronata. Medicago fructu minimo, coronulam utrinquè dentatam referente. Sauv. Monſp. 187. *Medicago cochleata polycarpos annua, capſulâ minimâ coronata.* Moriſ. Hiſt. II. p. 155, ſ. XXV. t. xv. f. 21. *Medica coronata cherleri parvâ.* Bauh. Hiſt. II. p. 386. *Trifolium folio obtuſo, ſolliculis coronatis.* Bauh. Pin. 329. Prodr. 141. n. 13.

Rigidula. Medicago triphylla, leguminibus cochleatis ſpinoſis, foliolis inferioribus cuneiformibus retuſis, ſuperioribus ſubrotundis. Dalib. Pariſ. 231. *Medica hirſuta, echinnis rigidioribus.* Bauh. Hiſt. II. p. 385. *Trifolium fructu compreſſo ſpinis horrido.* Bauh. Pin. 329.

Ciliaris. Medicago leguminibus congeſtis globoſis hiſpidis, ſtipulis ciliatis. Sauv. Monſp. 186. *Medica annua fructu ciliari.* Tournef. Inſt. 410. *Trifolium fructu cochleato ciliari.* Magn. Monſp. 269.

Hirſuta. Medicago leguminibus ſolitariis globoſis breviſſimè echinatis, ſtipulis ſerratis. Sauv. Monſp. 186. *Medica echinata hirſuta.* Bauh. Hiſt. II. p. 386. *Trifolium echinatum arvenſe.* Bauh. Pin. 329.

Minima. Medicago leguminibus cochleatis aculeis uncinatis alternis externè donatis, ſtipulis integris. Guett. Stamp. 249. Dalib. Pariſ. 230. *Medica echinata minima.* Bauh. Hiſt. II. p. 386. *Trifolium echinatum, fructu minore.* Bauh. Pin. 330.

Laciniata. Medicago fructu echinato, foliis linearibus dentatis. Sauv. Monſp. 187. *Trifolium fructu echinato, foliis eleganter diſſectis.* Magn. Monſp. cclxxi. t. 270. *Trifolium cochleatum ſpinoſum Syriacum, foliis laciniatis.* Breyn. Cent. lxxxi. t. 34.

CHAP. CCXVI.

MELAMPYRUM, COW-WHEAT.

OF this genus there are five diſtinct ſpecies, all Annuals, called,

Species. 1. Wild Cow-Wheat.
2. Purple Cow-Wheat.
3. Blue Cow-Wheat.
4. Meadow Cow-Wheat.
5. Creſted Cow-Wheat.

Deſcription of Wild, 1. Wild Cow-Wheat. The ſtalk is ſlender, ſquare, weak, ſends out branches by pairs, and grows to about a foot high. The leaves are oblong, pointed, of a thin conſiſtence, and grow oppoſite by pairs at the joints. The flowers come out two together along the ſides of the branches, are of a yellow colour, long, and gaping; they appear in July, and the ſeeds ripen in Auguſt and September.

Purple, 2. Purple Cow-Wheat. The ſtalk is upright, ſquare, hairy, uſually of a purpliſh colour, ſends out branches by pairs, and is about a foot high. The leaves are oblong, jagged on their edges, and of a purpliſh colour; thoſe at the lower parts of the plant are broad at the baſe, but the upper ones are narrow. The flowers come out in looſe ſpikes from the ends of the branches, and are of a purple colour ſtriped or ſpotted with yellow; they appear in June and July, and the ſeeds ripen in Auguſt.

Blue, 3. Blue Cow-Wheat. The ſtalks are ſlender, ſquare, ſend forth branches by pairs, and grow to about a foot high. The leaves are long, ſpear-ſhaped, and grow oppoſite by pairs at the joints. The flowers are produced from the ends of the ſtalks and branches in kind of ſpikes, and are of a blue colour, having woolly cups, and indented, ſpear-ſhaped bracteæ; they appear in July, and the ſeeds ripen in Auguſt.

and Meadow Cow-Wheat. 4. Meadow Cow-Wheat. The ſtalks are ſlender, ſquare, and ſend out branches by pairs like the other ſpecies. The leaves are ſpear-ſhaped, broad, and grow oppoſite to each other at the joints. The flowers are produced by pairs from the ſides of the branches, and are of a white colour, having two yellow ſpots on the under lip, and their tops cloſed; they appear in July and Auguſt, and the ſeeds ripen in September.

Variety. There is a variety of this ſpecies with yellow flowers.

Creſted Cow-Wheat deſcribed. 5. Creſted Cow-Wheat. The ſtalk is ſlender, branching by pairs, and about a foot high. The leaves are narrow, and grow oppoſite to each other on the branches. The flowers are produced from the tops of the ſtalks in quadrangular ſpikes, are of a yellow colour, appear in July, and the ſeeds ripen in Auguſt.

Varieties. There is a variety of this ſpecies with white, and another with purple flowers; and all of them are beautifully ſpotted on their under lip with colours of an oppoſite nature.

Method of propagation. All theſe ſpecies are propagated by ſowing the ſeeds, in almoſt any ſoil or ſituation, in the autumn ſoon after they are ripe, or in the ſpring following. When they come up, they will require no trouble, except thinning them where they are too cloſe, and keeping them clean from weeds.

They are ſaid to be admirable for fattening of cows and oxen, for which purpoſes they are cultivated in ſome places. A coarſe bread is made of the ſeeds of theſe plants, which by many perſons is ſaid to be hearty, pleaſant, good food, but by others is deemed very unwholeſome and diſagreeable.

Titles. Sylvaticum. 1. Wild Cow-Wheat is titled, *Melampyrum floribus ſecundis lateralibus, conjugationibus remotis, corollis biantibus.* Haller calls it, *Melampyrum floribus ſparſis ſeſſilibus binatis, foliis omnibus indiviſis.* John Bauhine calls it, *Melampyrum ſylvaticum flore luteo, ſive ſatureja lutea ſylveſtris*; Gerard, *Crataeogonon album*; and Parkinſon, *Crataeogonon vulgare.* It grows naturally in woods in England and moſt of the northern countries of Europe.

Arvense. 2. Purple Cow-Wheat is, *Melampyrum ſpicis conicis laxis, bracteis dentato-ſetaceis.* Van Royen calls it, *Melampyrum foliis laciniatis laxè ſpicatis*; Caſpar Bauhine, *Melampyrum purpuraſcente comâ*; alſo, *Melampyrum lanuginoſum Bæticum*; and Dodonæus, *Triticum vaccinum.* It grows naturally among the corn in England and moſt countries of Europe.

Nemorosum. 3. Blue Cow-Wheat is, *Melampyrum floribus ſecundis lateralibus, bracteis dentatis cordato-lanceolatis, ſummis coloratis ſterilibus, calycibus lanatis.* Caſpar Bauhine calls it, *Melampyrum comâ cæruleâ*; and Cluſius, *Parietaria ſylveſtris I.* It grows naturally in moſt of the northern countries of Europe.

Pratense. 4. Meadow Cow-Wheat is, *Melampyrum floribus ſecundis lateralibus, conjugationibus remotis, corollis clauſis.* In the *Flora Lappon.* it is termed, *Melampyrum foliis lanceolatis, florum paribus remotis.* Caſpar Bauhine calls it, *Melampyrum luteum latifolium*; and Ray, *Melampyrum latifolium flore albo, labio inferiore duabus maculis luteis diſtinctis.* It grows naturally in meadows and paſtures in England and moſt of the northern parts of Europe.

Cristatum. 5. Creſted Cow-Wheat is, *Melampyrum ſpicis quadrangularibus, bracteis cordatis compactis denticulatis imbricatis.* Caſpar Bauhine calls it, *Melampyrum luteum anguſtifolium*; alſo, *Melampyrum luteum, linariæ folio*; Plukenet, *Melampyrum anguſtifolium criſtatum*; and John Bauhine, *Melampyrum criſtatum, flore albo & purpureo.* It grows naturally in woods, foreſts, among thickets, &c. in England and moſt of the northern countries of Europe.

Claſs and order in the Linnæan Syſtem. *Melampyrum* is of the claſs and order *Didynamia Angioſpermia*; and the characters are,

The characters. 1. Calyx is a monophyllous, tubular, permanent perianthium, divided at the top into four ſlender ſegments.

2. Corolla is one ringent petal. The tube is oblong, and recurved. The limb is compreſſed. The upper lip is galeated, compreſſed, intended at top, and the ſides are bent back. The lower lip is plane, erect, the length of the upper lip, and divided into three equal, obtuſe ſegments.

3. Stamina are four awl-ſhaped, curved filaments, hid under the upper lip, of which two are ſhorter than the others, having oblong antheræ.

4. Pistillum conſiſts of an acuminated germen, a ſimple ſtyle the ſituation and length of the ſtamina, and an obtuſe ſtigma.

5. Pericarpium is an oblong, oblique, acuminated, compreſſed capſule, formed of two valves, and containing two cells.

6. Semina. The ſeeds are two, oval, and gibbous.

CHAP. CCXVII.

MELISSA, BAUM.

THERE is a Biennial of this genus, called The Shrubby Calamint.

The plant deſcribed. It is a low plant, ſeldom riſing to the height of a foot. The ſtalks, nevertheleſs, are ſhrubby, and put forth ſlender ſide-branches oppoſite to each other. The leaves alſo grow by pairs, are oval, pointed, hoary, and very much reſemble thoſe of *Marum.* The flowers terminate the ſtalks in whorled ſpikes; their colour is white, and each ſeparate flower is but very ſmall; they will be in full blow in July, and are ſucceeded by ripe ſeeds in September. This plant ſmells very much like Penny-Royal.

The beſt way of propagating it is by ſowing of the ſeeds in the autumn, ſoon after they are ripe, in the places where they are deſigned to remain. The place ſhould be warm, and well-ſheltered; and where the plants come up too cloſe, they ſhould be thinned to proper diſtances. Keep them clean from weeds, water them in very dry weather, and many of them will flower the ſummer following; while no ſmall ſhare of the leaſt forward plants will reſerve their bloom for the following ſummer.

Culture. This ſpecies is alſo eaſily propagated by cuttings. Plant theſe, in any of the ſummer-months, in a ſhady border. Water them at the ſame time, and repeat it every evening, and you will ſoon find your cuttings in a growing ſtate; but they ſeldom make ſuch handſome plants as thoſe raiſed from ſeeds.

As this ſpecies is liable to be deſtroyed by very ſevere winters, it would be adviſeable, to enſure the ſort, to fix a plant or two in pots to be removed into the green-houſe, if there ſhould be occaſion.

Titles. Frutico=coſa.

The Shrubby Calamint is titled, *Meliſſa ramis attenuatis, foliis ſubtus tomentoſis, caule fruticoſo.* Van Royen calls it, *Meliſſa caule fruticoſo, ramis verticillatis*; and Tournefort, *Calamintha Hiſpanica fruteſcens, mari folio.* It grows naturally in Spain.

CHAP. CCXVIII.

MELOCHIA.

Species.

OF this genus are,

1. Currant-leaved *Melochia.*
2. Jews Mallow-leaved *Melochia.*
3. Betony-leaved *Melochia.*

Deſcription of Currant-leaved,

1. Currant-leaved *Melochia.* The ſtalk is erect, tender, branching, and a foot and a half high. The leaves are oval, ſerrated, and grow on footſtalks. The flowers come out ſingly from the wings of the leaves; they are of a fine fleſh colour, appear in July and Auguſt, and are ſucceeded by rough, depreſſed, pentagonal capſules, containing ripe ſeeds in the autumn.

and Jews Mallow-leaved Melochia.

2. Jews Mallow-leaved *Melochia.* The ſtalk divides into numerous branches, which are very rough, and ſpread themſelves every way. The leaves are nearly heart-ſhaped, obtuſe, plicated, ſublobed, and ſerrated. The flowers come out in ſmall heads at the ends of the branches; they are of a pale-purple colour, with yellow bottoms; they appear in July and Auguſt, and the ſeeds ripen in the autumn.

Variety.

There is a variety of this ſpecies with ſmall white flowers.

Betony-leaved Melochia deſcribed.

3. Betony-leaved *Melochia.* The ſtalks in one variety are herbaceous, branching, and procumbent; in another, ſomewhat ligneous, upright, firm, and five or ſix feet high. The leaves are oblong, oval, ſpear-ſhaped, ſerrated, plicated, and downy. The flowers are produced in umbels at the wings of the leaves; they are large, and of a purple colour; they appear in July and Auguſt, and the ſeeds ripen in the autumn.

Culture.

Theſe plants are eaſily raiſed by ſowing the ſeeds on a ſlight hot-bed in the ſpring. When they are grown tolerably ſtrong, they ſhould be ſet abroad on ſome moiſt day, obſerving to preſerve a ball of earth to each root, in ſome warm, well-ſheltered part of the garden, where they will grow, and perfect their ſeeds.

Titles. Depreſſa.

1. The firſt ſpecies is titled, *Melochia floribus ſolitariis, capſulis depreſſis pentagonis: angulis obtuſis ciliatis.* Brown calls it, *Melochia erecta minor, foliis ovatis ſerratis: petiolis geniculatis*; and Houſtoun, *Abutilon Americanum, ribeſii foliis, flore carneo, fructu pentagono aſpero.* It grows naturally in America.

Corchori=folia.

2. The ſecond ſpecies is, *Melochia floribus capitatis ſeſſilibus, capſulis ſubrotundis.* Dillenius calls it, *Melochia corchori folio*; Plukenet, *Althæa peregrina, longiore betonicæ folio, floribus albis perexiguis, capſulis arctè conglomeratis*; and Rheede, *Tſjeru-uren.* It grows naturally in India.

Tomentoſa.

3. The third ſpecies is, *Melochia floribus umbellatis axillaribus, capſulis pyramidatis pentagonis: angulis mucronatis, foliis tomentoſis.* Brown calls it, *Melochia fruteſcens, foliis ſubincanis villoſis oblongo-ovatis crenato-ſerratis, floribus racemoſis, cortice fuſco*; and Sloane, *Abutilon herbaceum procumbens, betonicæ folio, flore purpureo.* It grows naturally in moſt of the Weſt Indian iſlands.

Claſs and order in the Linnæan Syſtem. The characters.

Melochia is of the claſs and order *Monadelphia Pentandria*; and the characters are,

1. CALYX is a monophyllous, permanent perianthium, cut at the brim into five ſemioval, acute ſegments.
2. COROLLA conſiſts of five large, obcordated, patent petals.
3. STAMINA. The filamentary tube involves the germen, and has five diſtinct, ſimple antheræ.
4. PISTILLUM conſiſts of a roundiſh germen, and five awl-ſhaped, erect, permanent ſtyles the length of the ſtamina, with ſimple ſtigmas.
5. PERICARPIUM is a roundiſh, pentangular capſule, containing five cells.
6. SEMEN. The ſeed is ſingle in each cell, roundiſh on one ſide, and angular and compreſſed on the other.

CHAP.

C H A P. CCXIX.

MELOTHRIA, SMALL CREEPING CUCUMBER.

THERE is only one ſpecies of this genus yet known, called, Small Creeping Cucumber.

The plant deſcribed. The ſtalk is ſlender, jointed, poſſeſſed of tendrils, lies on the ground, and ſtrikes root at the joints. The leaves are angular, roundiſh, rough to the touch, of a dull-green colour, and grow ſingly at the joints on ſhort, ſtrong footſtalks. The flowers come out from the wings of the leaves on ſhort footſtalks; they are of a pale-yellow colour, appear in July and Auguſt, and are ſucceeded by oval, ſmooth, black berries, which ripen in September.

Culture. This plant is propagated by ſowing the ſeeds on a hot-bed in the ſpring, in the manner of Cucumbers; and as the plants ſtrike root at the joints as they extend themſelves, they receive nouriſhment from every part, and make amazing progreſs; the redundant ſhoots, however, may be eaſily nipped off, and a ſhare only ſufficient to cover the bed properly, ſuffered to remain. Thus they may be brought to flower in June or earlier, if neceſſary; but as they are only raiſed here for the ſake of variety, when numerous kinds of plants are intended to be exhibited, the beſt way will be to ſow the ſeeds on a moderate hot-bed, about the beginning of April, and they will be early enough to produce plenty of flowers and good ſeeds for a ſucceſſion.

Its uſes. The fruit is about the ſize of a ſmall olive, and is uſed as a pickle, when green, by the Americans.

Titles. Pendula. This being the only ſpecies of the genus, it is termed ſimply, *Melothria*. Plukenet calls it, *Cucumis parva repens Virginiana, fructu minimo*; Sloane, *Cucumis minima, fructu ovali nigro lævi*; and Plumier, *Bryonia, olivæ fructu, minor*. It grows naturally in Canada, Virginia, and Jamaica.

Claſs and order in the Linnæan Syſtem; The characters. *Melothria* is of the claſs and order *Triandria Monogynia*; and the characters are,

1. Calyx is a monophyllous, bell-ſhaped, ſwelling, deciduous perianthium, placed on the germen, and indented in five parts at the top.
2. Corolla is one rotated petal. The tube is the length of the calyx, and grows to it. The limb is plane, and divided into five obtuſe ſegments.
3. Stamina are three conical filaments inſerted in the tube of the corolla, and of the ſame length with it, having roundiſh, compreſſed, didymous antheræ.
4. Pistillum conſiſts of an oval, oblong, acuminated germen ſituated under the calyx, a cylindrical ſtyle the length of the ſtamina, and three thickiſh, oblong ſtigmas.
5. Pericarpium is an oval, oblong berry, divided into three parts.
6. Semina. The ſeeds are many, oblong, and compreſſed.

C H A P. CCXX.

MERCURIALIS, MERCURY.

OF this genus there is an uſeful Annual, called, French Mercury.

The plant deſcribed. The ſtalk is thick, branching, jointed, and about a foot high. The leaves are ſpear-ſhaped, indented, ſmooth, and uſually of a pale-green colour. The flowers come out in ſpikes from the tops and ſides of the branches, and there will be male and female ſpikes on different plants; they appear in June, and continue to ſhew themſelves almoſt all ſummer, neither is there any end of the ſeeds they will afford for a ſucceſſion.

Medicinal qualities of it. This ſpecies is a uſeful pot-herb, and by many cultivated on that account. As a phyſical herb, it is in great eſteem, being one of the five emollients; it is opening, affords a uſeful ſyrup to procure a gentle laxative, and is often an ingredient in glyſters.

Culture. This plant is raiſed by ſowing the ſeeds ſoon after they are ripe, or in the ſpring. When they come up, they will require no trouble, except thinning them to proper diſtances, keeping them clean from weeds; and when the ſeeds are ripened, ſwarms of freſh plants will come up all over the ſpot; and it will be very difficult, ſhould you chuſe it, afterwards to get rid of it.

Titles. Annua. This ſpecies is titled, *Mercurialis caule brachiato, foliis glabris, floribus ſpicatis.* Caſpar Bauhine calls it, *Mercurialis teſticulata, ſ. mas*; and Dodonæus, *Mercurialis mas*; alſo, *Mercurialis ſpicata ſ. femina.* It grows common in England, being found upon dunghills, by way-ſides, about villages, &c. It alſo grows naturally in France, from whence we firſt probably had the ſeeds, and in moſt of the ſouthern parts of Europe.

CHAP. CCXXI.

MESEMBRYANTHEMUM, FIG MARIGOLD.

Of this genus there are theſe remarkable Annuals,

Species.
1. The Ice Plant.
2. The Ægyptian *Kali.*
3. The Coptic *Kali.*
4. The Cape Annual Fig Marigold.

Deſcription of the Ice Plant, 1. The Ice Plant is propagated for the ſingular and beautiful oddneſs of its appearance; it being a large ſucculent plant, lying proſtrate on the ground, and beſpangled all over with ſilvery particles, glittering gems, and pellucid icy pimples or bubbles, ſo as to cauſe a luſtre not commonly met with in the vegetable world.

The ſtalk is round, thick, juicy, and divides into a number of branches, and theſe again into ſmaller; ſo that it ſpreads itſelf all around, and covers with its leaves a circle of five or ſix feet in diameter. The leaves are of an oval figure, ſhort, obtuſe, ſucculent, waved on their edges, and placed alternately on the branches. The natural colour both of ſtalks and leaves is a pale-green; but they are covered over ſo plentifully with theſe pellucid, glittering pimples, full of moiſture, that when the ſun ſhines on the plant, it appears like one that is adorned by the piercing ſeverity of a ſharp froſty night. Hence the name Ice-Plant has been vulgarly given to this ſpecies. In ſome parts it goes by the name of Silvery *Ficoides*. The Dutch call it, Cryſtalline *Ficoides*; and ſome of our politer Gardeners call it Diamond *Ficoides*; while others, affecting ſtill harder names, term it Diamond *Meſembryanthemum.*

The flowers are numerous when the plant is confined, but are few, where it wantons in all its luxuriancy, and is planted abroad in a rich ſoil. Their natural colour is white, though they are often tinged with red or crimſon; they grow from the ſides of the branches on very ſhort footſtalks, and by proper management will afford plenty of ſeeds for a ſucceſſion.

Ægyptian Kali, 2. Ægyptian *Kali.* This is a procumbent plant. The leaves are very thick, ſucculent, broad, obtuſe, and ciliated at the baſe. From the center of theſe others ſmaller are produced, and theſe again ſend forth others. The ſtalks are ſlender, roundiſh, and procumbent. The leaves growing on them are nearly cylindric, obtuſe, ciliated, and placed alternately. The flowers are produced from the wings of the leaves on thick footſtalks; their colour is white, and they never bring their ſeeds to perfection in our gardens.

Coptic Kali, 3. Coptic *Kali.* The ſtalk is herbaceous, thick, and forked. The leaves are long, taper, ſucculent, diſtinct, and hairy. The flowers are produced ſingly from the divſions of the branches, and have no footſtalks; their colour is white; they have yellow ſtamina, twelve ſtyles, and are ſucceeded by turbinated, retuſe, compreſſed capſules, full of roundiſh, ſtriated ſeeds.

and Cape Annual Fig Marigold. 4. Cape Annual Fig Marigold. This plant hath a white, taper, herbaceous ſtalk, poſſeſſed of prickly hairs, growing on it in cluſters. The leaves are plane, broad, ſpear-ſhaped, diſtinct, and a little ciliated. The flowers are of a ſulphur colour; the petals are very narrow, numerous, and acute, and they grow on prickly, hairy footſtalks.

This ſpecies hath been but very few years introduced into the European gardens.

Method of propagation. All theſe ſorts are raiſed by ſowing the ſeeds on a moderate hot-bed in the ſpring. This hot-bed ſhould have a good ſubſtance of garden-mould laid on it, and the ſeeds muſt be covered about a quarter of an inch deep. The plants will readily come up; and when they are of proper ſize to tranſplant, a ſhare of them ſhould be ſet in pots, and plunged into another hot-bed, where they may be kept until about Midſummer, and then turned out in the open ground; whilſt ſome of the pots may be reſerved for the green-houſe or ſtove, in which places they will continue to look ſingular and beautiful all winter. This management reſpects all the ſorts. With regard to the Ice Plant, a few of the ſtrongeſt ſhould be left untouched on the bed; and as the days and nights become warm, they muſt be uſed much to the air, and about Midſummer the flowers ſhould be wholly taken off the bed. The plants will then grow amazingly, and by the autumn they will have covered the whole bed: They will diſplay their beſpangled pride, and ſhine with their icy brilliancy until the firſt froſt happens, to which the Ice Plant immediately gives way.

In order to have ſeeds from theſe plants, a ſufficient quantity muſt be ſet in ſmall pots filled with light, ſandy earth, and if there be a little old lime rubbiſh mixed with it, it will be the better. Theſe pots muſt be plunged into a hot-bed, watered and ſhaded until they have taken root, afterwards have plenty of air, and, to prevent their drawing weak, watered as often as there ſhall be occaſion. The beginning of July they ſhould be removed into the ſtove, and ſet upon ſhelves, where they will flower plentifully, and bring their ſeeds to perfection.

If you chuſe theſe plants to figure with others in the green-houſe during the winter, a ſufficient quantity ſhould be planted in larger pots, filled with light, ſandy, but not rich earth. If you find them growing too luxuriant, you may take off ſome of the branches, and ſhift the plants into other pots; paring off a quantity of the mould at the roots at the time of tranſplanting, which will keep them within bounds. At every removal you muſt water and ſhade them until they have taken root; and in the autumn they muſt be removed into the greenhouſe with other plants, where they will flower, and cauſe a ſtriking appearance all winter.

Titles. Crystal-linum. 1. The Ice Plant is titled, *Meſembryanthemum foliis alternis ovatis papuloſis undulatis.* Dillenius calls it, *Meſembryanthemum cryſtallinum plantaginis folio undulato.* It grows naturally in Africa.

Nodiflo-rum. 2. Ægyptian *Kali* is, *Meſembryanthemum foliis alternis teretiuſculis obtuſis baſi ciliatis.* Caſpar Bauhine calls it, *Kali craſſulæ minoris foliis*; and Columna, *Kali Neapolitanum aizoides repens.* It grows naturally in Ægypt.

Copticum. 3. Coptic *Kali* is, *Meſembryanthemum foliis ſemiteretibus papuloſis diſtinctis, floribus ſeſſilibus axillaribus, calycibus quinquefidis.* Caſpar Bauhine calls it, *Kali Ægypticum, foliis valdè longis hirſutis.* It is a native of Ægypt.

4. Cape Annual Fig Marigold is, *Meſembryanthemum foliis planiuſculis lato-lanceolatis lævibus ſubciliatis diſtinctis, caule pedunculis germinibuſque hirtis.* It grows naturally at the Cape of Good Hope. Pomeri-dianum.

Claſs and order in the Linnæan Syſtem. The characters.

Meſembryanthemum is of the claſs and order *Icoſandria Pentagynia*; and the characters are,

1. Calyx is a monophyllous, permanent perianthium, divided at the top into five acute, patent ſegments.

2. Corolla is a ſingle petal, which is divided almoſt to the bottom into a very great number of narrow, ſpear-ſhaped ſegments, that look like ſo many diſtinct petals; they are arranged in ſeveral ſeries, and are rather longer than the calyx.

3. Stamina are numerous capillary filaments the length of the calyx, having incumbent antheræ.

4. Pistillum conſiſts of an obtuſe, five-cornered germen ſituated below the flower, and for the moſt part of five ſubulated, erect, reflexed ſtyles, with ſimple ſtigmas.

5. Pericarpium is a roundiſh, fleſhy capſule, with a radiated dent, and a number of cells equal to that of the ſtyles.

6. Semina. The ſeeds are numerous, and roundiſh.

C H A P. CCXXII.

MICROPUS, BASTARD CUDWEED.

Species.

Of this genus there are only two ſpecies yet known, called,

1. Trailing Baſtard Cudweed.
2. Upright Baſtard Cudweed.

Deſcription of Trailing

1. Trailing Baſtard Cudweed. The ſtalks are round, white, ſix or eight inches long, and lie on the ground. The leaves are oval, oblong, of a ſilvery-white colour, and grow two together at the joints. The flowers are produced in cluſters from the wings of the leaves near the extremity of the branches; they are ſmall, and of a white colour; they appear in June, July, and Auguſt, and the ſeeds ripen in the autumn.

and Upright Baſtard Cudweed.

2. Upright Baſtard Cudweed. The ſtalk is erect, branching, and about a foot high. The leaves are oval, oblong, and ſit cloſe to the ſtalks. The flowers come out from the wings of the leaves in cluſters; they are of a white colour, and very woolly; they appear in July and Auguſt, and the ſeeds ripen in the autumn.

Culture.

Theſe plants are raiſed by ſowing the ſeeds in the autumn, ſoon after they are ripe, and they will flower early the ſummer following; after which, if permitted, they will ſcatter their ſeeds, and maintain the ſucceſſion without further trouble.

Titles. Supinus.

1. The firſt ſpecies is titled, *Micropus caule proſtrato, foliis geminis.* In the *Hortus Upſal.* it is termed, *Micropus.* Plukenet calls it, *Gnaphalium ſupinum echinato ſemine*; and Moriſon, *Pſeudo-gnaphalium ſupinum, ſemine echinato.* It grows naturally in the maritime parts of Luſitania, Italy, and the Eaſt.

Erectus. 2. The ſecond ſpecies is, *Micropus caule erecto, calycibus edentulis ſolitariis.* Loefling calls it, *Micropus ſeminibus compreſſis lanatis inermibus.* In the *Hortus Cliffort.* it is termed, *Gnaphalium caule ramoſo diffuſo, floribus confertis lanâ tectis.* Cluſius calls it, *Gnaphalium plateau* 3; Vaillant, *Filago ſ. impia capitulis compreſſis*; and Barrelier, *Leontopodium verius Dioſcoridis.* It grows naturally on the hills of the Eaſt, Gaul, and Spain.

Claſs and order in the Linnæan Syſtem. The characters.

Micropus is of the claſs and order *Syngeneſia Polygamia Neceſſaria*; and the characters are,

1. Calyx is double. The lower calyx conſiſts of five ſmall, ſlender, obſolete leaves. The interior calyx is large, and compoſed of five looſe, diſtinct, galeated, compreſſed leaves.

2. Corolla. The hermaphrodite florets are ten in the diſk; and each has one funnel-ſhaped, upright petal, indented in five parts at the top. The females are five in the circumference, and they have no corolla.

3. Stamina of the hermaphrodites are five very ſhort ſetaceous filaments, having a cylindrical, tubular anthera the length of the floret.

4. Pistillum of the hermaphrodites conſiſts of an obſolete germen, a filiforme ſtyle longer than the ſtamina, and an obſolete ſtigma.

In the females it conſiſts of an oval, compreſſed germen, hid under each of the ſcales of the interior calyx; a ſetaceous ſtyle by their ſides the length of the calyx; and a ſlender, acuminated ſtigma, divided into two parts.

5. Pericarpium. There is none.

6. Semen. In the hermaphrodites there is none. The ſeed of the females is ſingle, oval, and included in the ſmall leaf of the interior calyx.

CHAP. CCXXIII.

MILLERIA.

Species.

THERE are only two ſpecies of this genus yet known, called,

1. Five-flowered *Milleria.*
2. Two-flowered *Milleria.*

Deſcription of Five and Two-flowered Milleria.

1. Five-flowered *Milleria.* The ſtalk is upright, herbaceous, branching, and five or ſix feet high. The leaves are heart-ſhaped, pointed, ſerrated, hairy, and grow oppoſite to each other on winged footſtalks. The flowers come out in ſpikes from the diviſions of the ſtalks; they are of a yellow colour, appear in July and Auguſt, and the ſeeds ripen in the autumn.

2. Two-flowered *Milleria.* The ſtalk is upright, herbaceous, branching, and about two feet high. The leaves are oval, ſpear-ſhaped, pointed, indented on the edges, and grow oppoſite to each other on naked footſtalks. The flowers are produced from the wings of the leaves in ſmall cluſters; they ſhew themſelves in July and Auguſt, and the ſeeds ripen in the autumn.

Culture.

Theſe plants are raiſed by ſowing the ſeeds early in the ſpring, in pots filled with rich, light earth. Theſe muſt be plunged into a hot-bed, to forward the ſeeds, and the more ſpeedily to bring them up. From the time of their appearance, they muſt be nurſed with all the care of tender plants, until they are four inches high; and then carefully ſhake the mould out of the pots, to prevent the roots being damaged. Let each plant be ſet in ſeparate pots filled with as rich mould as can be procured, and then plunge the pots to the rims in a good bark-bed. Shade and water them at firſt; but after they have taken root, let them have as much air as the weather will permit; and a good watering, eſpecially in hot weather, ſhould be daily beſtowed on them. The firſt ſpecies being of taller growth, will probably require to be ſhifted into larger pots; if ſo, let them be turned out with the ſtricteſt care, that the mould may not be diſturbed about the roots; then plant them in larger pots, plunge them into a hot-bed as before, and give them a good watering. As they encreaſe in height the glaſſes muſt be raiſed, air in hot weather afforded them, and due watering muſt by no means be neglected; they will then flower ſtrong by the end of July, or early in Auguſt, and the ſeeds ripen in the autumn.

Titles.

1. The firſt ſpecies is titled, *Milleria foliis cordatis, pedunculis dichotomis.* Martin calls it, *Milleria annua erecta, floribus ſpicatis luteis*; alſo, *Milleria annua ramoſior, foliis maculatis profundius ſerratis.* It is a native of Panama and Vera Cruz. Quinque-flora.

2. The ſecond ſpecies is, *Milleria foliis ovatis, pedunculis ſimpliciſſimis.* Martin calls it, *Milleria annua erecta minor, foliis parietariæ, floribus ex foliorum alis.* It is a native of Campeachy. Biflora.

Claſs and order in the Linnæan Syſtem. The characters.

Milleria is of the claſs and order *Syngeneſia Polygamia Neceſſaria*; and the characters are,

1. CALYX. The general calyx is monophyllous, large, permanent, and divided into three parts. The two interior ſegments are equal, oval, plane, and acute; the exterior ones are much larger, roundiſh, heart-ſhaped, pointed, and plane.

2. COROLLA is compound, and ſemiradiated. The hermaphrodite florets are two in number, ſituated within the ſmall calycinal leaves.

The female is one only, accompanying the larger leaf of the calyx.

The hermaphrodite florets have each one tubular, erect petal, indented in five parts at the top.

The female is tongue-ſhaped, erect, obtuſe, concave, and indented at the top.

3. STAMINA of the hermaphrodites are five capillary filaments, having the ſame number of erect, linear, acute antheræ, which are connected by the ſides, and about the middle, and are the length of the corolla.

4. PISTILLUM of the hermaphrodites conſiſts of an oblong, ſlender germen; a filiforme ſtyle the length of the corollula; and two long, ſetaceous, reflexed ſtigmas.

5. PERICARPIUM. There is none. The ſeed is incloſed in the connivent, three-cornered, permanent calyx.

6. SEMEN of the hermaphrodites is none.

In the females, the ſeed is ſingle, oblong, obtuſe, triquetrous, and has no down.

The receptacle is very ſmall.

CHAP.

C H A P. CCXXIV.

MIMOSA, The SENSITIVE PLANT.

THERE are ſeveral ſorts of the Senſitive Plant, which are but of ſhort duration in England; one, however, is more peculiarly an Annual, called the Double-flowered Senſitive Plant.

This plant deſcribed. The ſtalk is round, herbaceous, unguarded with thorns, and divides into many branches, which ſpread themſelves every way. The leaves are bipinnated, long, ſtand almoſt horizontally, and are very ſuſceptible of the leaſt touch from the hand or air. The flowers come out in ſpikes from the ends and ſides of the branches; they are of a yellow colour, and the lower ones are very double; they appear in July and Auguſt, and the ſeeds ripen in the autumn.

Culture. This plant riſes freely from ſeeds, and may be raiſed on a hot-bed, like other tender Annuals. Let them be tranſplanted to another hot-bed, when they are about three inches high; and they may not only be brought to flower and perfect their ſeeds in due ſeaſon, but all along are made to exhibit their ſenſitive property of receding from the touch, to the ſatisfaction of ſuch as are unacquainted with the nature of them. When they are thus raiſed on a hot-bed, and continued there, they muſt be regularly watered, and conſtantly kept warm, otherwiſe their ſenſitive quality will proportionally be diminiſhed.

Titles. Plena. This ſpecies is titled, *Mimoſa inermis, foliis bipinnatis, ſpicis pentandris: inferioribus plenis.* Houſtoun calls it, *Mimoſa herbacea non ſpinoſa procumbens & paluſtris, flore luteo pleno.* It is a native of Vera Cruz.

Claſs and order in the Linnæan Syſtem. The characters. *Mimoſa* is of the claſs and order *Polygamia Monoecia*; and the characters are,

1. CALYX is a very ſmall, monophyllous perianthium, having five indentures at the top.
2. COROLLA is one ſmall, funnel-ſhaped petal, cut at the brim into five ſegments.
3. STAMINA are many very long capillary filaments, with incumbent antheræ.
4. PISTILLUM conſiſts of an oblong germen, a filiforme ſtyle ſhorter than the ſtamina, and a truncated ſtigma.
5. PERICARPIUM is a long pod, having ſeveral tranſverſe partitions.
6. SEMINA. The ſeeds are many, and roundiſh.

C H A P. CCXXV.

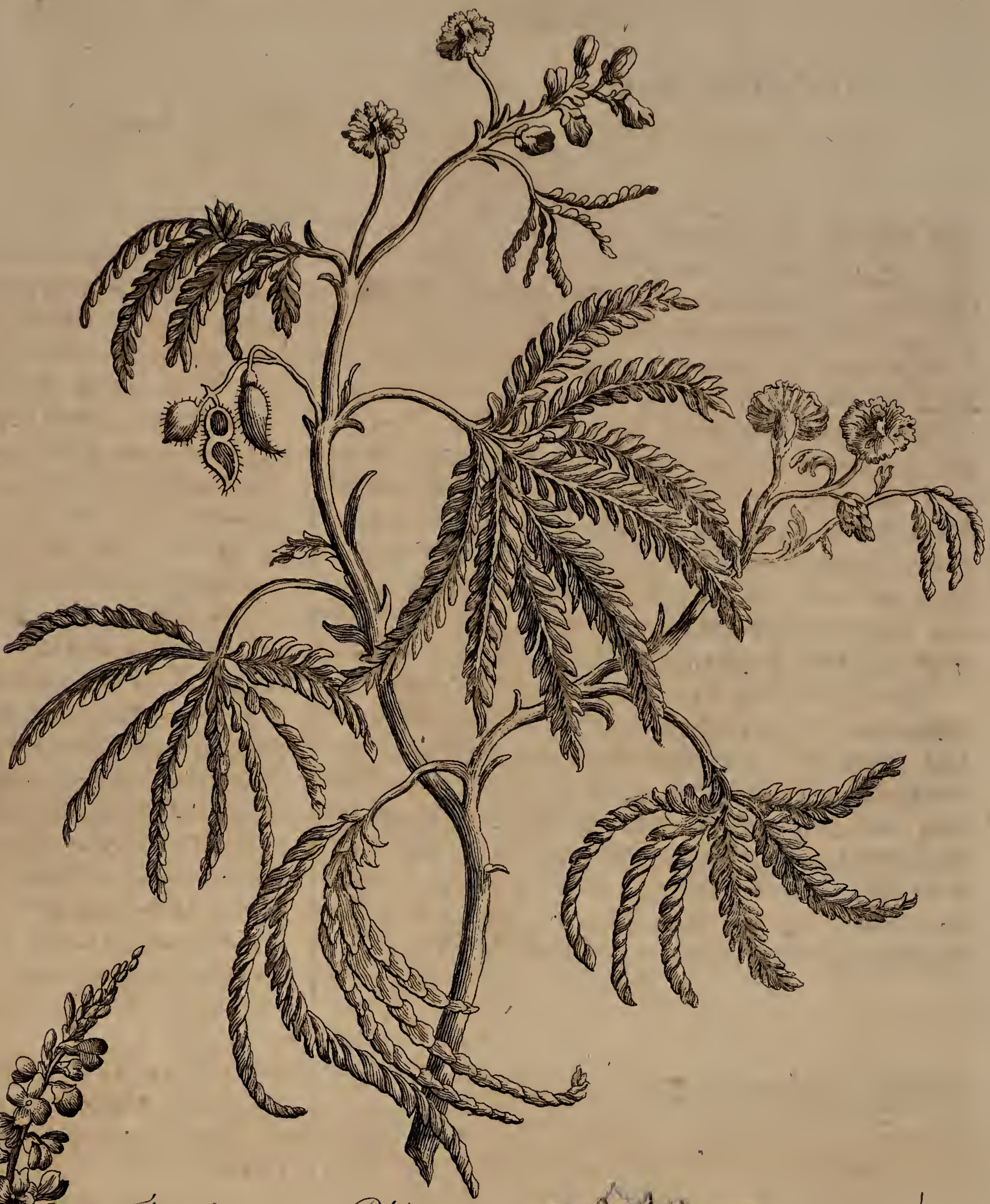
MIRABILIS, MARVEL of PERU, or FOUR o'CLOCK FLOWER.

Introductory Remarks. THERE are many varieties of the *Mirabilis*, differing in the colour or diſpoſition of their flowers. Hence ſeveral imaginary ſpecies have been framed by authors, and ſeveral properties applied to ſome of them which they are not poſſeſſed of. The Jalap of our ſhops has by many been ſuppoſed to be the root of the *Mirabilis*; and we need not wonder that this opinion ſhould be almoſt generally received, when we find Linnæus adopt it. Tournefort was ſo well ſatisfied that Jalap was the root of the Marvel of Peru, that he gave the title *Jalapa* to this genus of plants. Linnæus now calls it, *Mirabilis*, which is a little alteration of an old name given it formerly by Cluſius, who called it *Admirabilis*. Some reſpectable Botaniſts have made it a *Solanum*; and the celebrated Van Royen calls it, *Nyctage*. After this, we need not wonder at the number of imaginary ſpecies that aroſe; but Linnæus lopped them all off, and affirmed that this genus conſiſted of one real ſpecies only, which is the Jalap uſed in medicine. In his later works he has made the *Mirabilis* to conſiſt of three diſtinct ſpecies, the roots of all which have a ſtrong purgative property, that probably led them into the error of believing it to be the true Jalap. The roots of theſe ſpecies, in their own countries, laſt for years; and with us, if they are taken out of the ground before the froſts come on, and preſerved in ſand, they may be planted again in the ſpring; but as without this precaution they are ſure to rot and decay, and as the Marvel of Peru has not only been eſteemed an Annual, but an Annual of the firſt claſs, by our Gardeners, I propoſe to conſider it here as ſuch, and give its deſcription and culture. Of this genus, then, there are three diſtinct ſpecies:

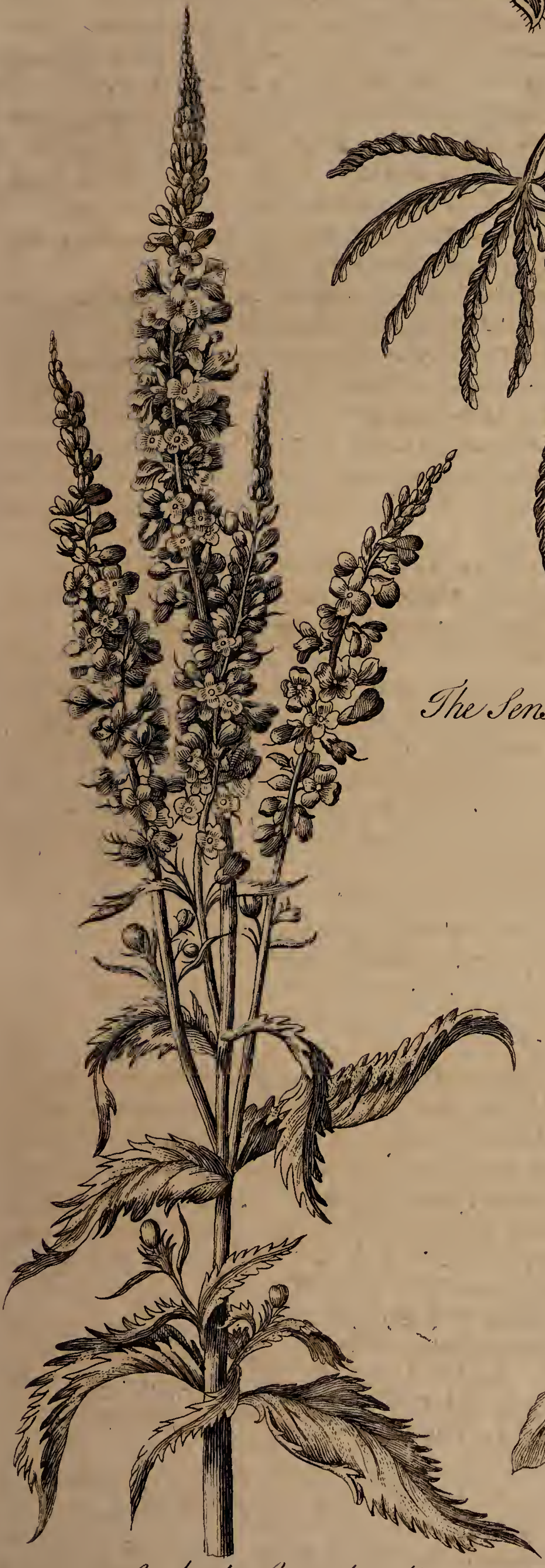
Species.

1. The Common Marvel of Peru.
2. Marvel of Peru with Small Seſſile Flowers.
3. The Long-tubed Marvel of Peru.

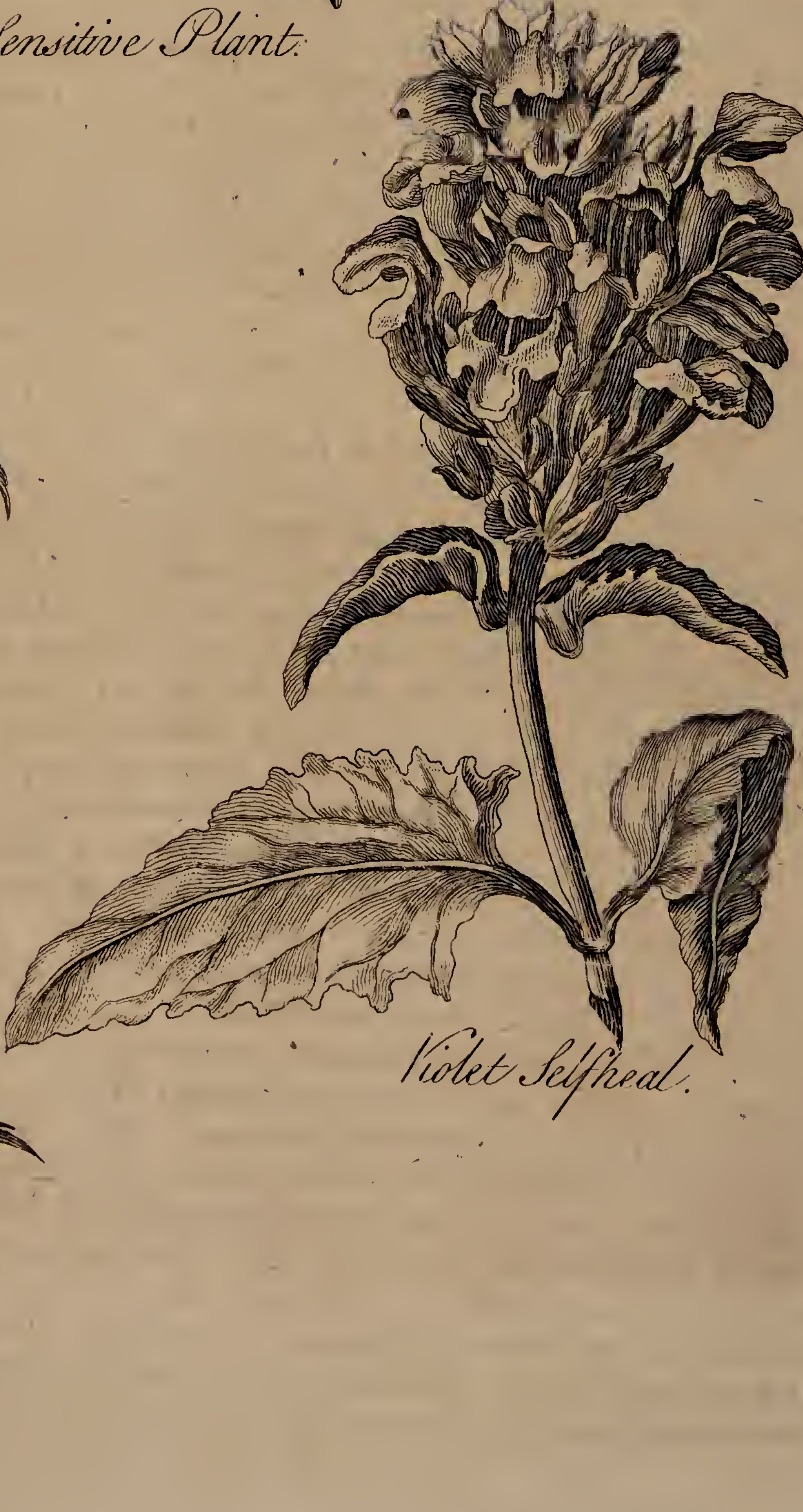
Common Marvel of Peru deſcribed. 1. The firſt ſort is of the firſt rank with our Gardeners as an Annual. It riſes with a jointed, branching ſtalk to about a yard in height. The leaves are of an oblong figure, moderately broad, and of a fine green colour; their edges are entire, and they grow oppoſite by pairs on the branches. Of the flowers there are, the Yellow, Red, White, Purple, and Variegated. But notwithſtanding all theſe colours are common to all the ſpecies,



The Sensitive Plant.



many Spiked Speedwell.



Violet Selfheal.

ſpecies, it is ſeldom that a plant has one of theſe colours alone; with the Red it is indeed moſt common, but in general there will be red mixed with yellow flowers on the ſame plant, or purple and white flowers, which uſually accompany one another: Others, again, will be variegated, and very often there will be plain flowers of different colours, and variegated flowers alſo on the ſame plant. They will be very numerous, terminating the ſtalks in plenty; and others again will riſe from the wings of the leaves and branches. The variegated are the moſt ſought after; and, in order to obtain theſe with more certainty, all plain-coloured flowers muſt be pulled off, and the beautifully-variegated only ſaved for ſeeds. In cloudy weather they ſhew themſelves to perfection, and in hot weather the evenings are the time when they diſplay their charms. They will flower in July, and continue the ſucceſſion through Auguſt, September, and even October, if the froſts keep off, all which time they will be very ornamental to any place or ſituation.

Marvel of Peru, with Small Seſſile Flowers,

2. Marvel of Peru, with Small Seſſile Flowers. This plant riſes with a jointed ſtalk, which branches out in a forked manner. The joints are thick, and the leaves grow oppoſite to each other; they are of a fine green colour, and conſtitute a well-looking plant, but the flowers are chiefly concealed among them; they are ſmall, and of a red colour; they grow ſingly from the wings of the ſtalks in an erect poſture, where they ſit cloſe, and being much obſcured by the many broad leaves, makes this ſpecies of much inferior value to the other; though they ſeem to make amends for this by the remarkable fragrance they afford in evenings.

Some Botaniſts will have the root of this ſpecies to be the Jalap; but thoſe alſo are miſtaken.

and Long-tubed Marvel of Peru deſcribed.

3. Long-tubed Marvel of Peru. This ſpecies has not been of long ſtanding in our gardens, and the flowers among Gardeners are reckoned a curioſity. It will riſe with a branching ſtalk to a yard or more in height, if ſupported; if not, the branches will decline to the ground. The ſtalks are viſcous and hairy, and the leaves grow on them oppoſite by pairs: Theſe alſo are hairy, and viſcous; they are very large, and their figure is cordated. The flowers are large, and the tubes are ſo very long that they have a ſingular look, which ſtrikes Gardeners, and they value the ſpecies accordingly. They are of a white colour, poſſeſſed of a muſky fragrance, and are ſucceeded by large, rough ſeeds. This plant flowers in Auguſt, September, and October.

The flowers of all the ſorts of the *Mirabilis* open in the evening, uſually about four o'clock. Hence the name Four-o'Clock-Flower has been given to this genus. In mild, cloudy weather, indeed, you may expect to ſee the flowers open at any time of the day.

Culture.

All theſe ſorts are eaſily raiſed by ſowing the ſeeds in the ſpring, in a well-managed border of good, fat earth; they will readily come up, and where they are too thick, muſt be thinned: Here they will ſtand and flower, but it will not be till late in the autumn. In order, therefore, to have them earlier, let the ſeeds be ſown on a hot-bed the firſt week in March; and when the plants are fit to remove, take them carefully up with a ball of earth to each root, plant them in ſmall pots, and plunge them in a ſecond hot-bed. In this, as well as in the former hot-bed, raiſe the glaſſes, let them have as much free air as poſſible, and be ſprinkled with water twice a day. When the plants are grown large, and the heat of the bed is exhauſted, turn them out of the pots, with the mould at the roots, into the places where they are deſigned to remain. With this management they will be in flower in July, and continue in blow until the early froſts advance.

If the roots of theſe ſorts are carefully taken up in the autumn, preſerved in ſand, and planted again in the ſpring, they will grow, and the plants will be ſtronger, and flower earlier than thoſe raiſed from the ſeeds. Some give the roots the benefit of a hot-bed in the ſpring; and this is more peculiarly neceſſary where the plants are wanted to adorn court-yards, and the like. When this is wanted, let the roots be planted in large pots, and then be plunged into a hot-bed. The frame ſhould be very deep, and as the plants advance give them air and water in plenty; and after you have hardened them to bear the open air, the pots may be taken up, and ſet in the places where they are wanted. By this method the plants will often grow to be near five feet in height, and the flowers be proportionally numerous and ſtrong.

The roots of all theſe are purgative; but that they are not the true Jalap we learn from Dr. Hounſton, a man of great veracity, who aſſures us, that at Halapa, in the Spaniſh Weſt Indies, it is the root of a *Convolvulus* that the inhabitants dig for the Jalap.

Titles.

1. The Common Marvel of Peru is titled, *Mirabilis floribus congeſtis terminalibus erectis.* Caſpar Bauhine calls it, *Solanum Mexicanum, flore magno*; and Cluſius, *Admirabilis Peruviana.* It grows common in the Eaſt and Weſt Indies. Jalapa.

2. Marvel of Peru, with Small Seſſile Flowers, is titled, *Mirabilis floribus ſeſſilibus axillaribus erectis ſolitariis.* Caſpar Bauhine calls it, *Solanum Mexicanum, flore parvo*; Cluſius, *Admirabilis jaſmini roſa*; and Martin, *Jalapa officinarum.* It grows naturally in Mexico. Dichotoma.

3. Long-tubed Marvel of Peru is, *Mirabilis floribus congeſtis terminalibus longiſſimis nutantibus, foliis ſubvilloſis.* Monier calls it, *Jalapa Mexicana, villoſa & glutinoſa, tubo floris longiſſimo.* This alſo is a native of Mexico. Longiflora.

Mirabilis is of the claſs and order *Pentandria Monogynia*; and the characters are,

Claſs and order in the Linnæan Syſtem; The characters.

1. Calyx is an erect, ventricoſe perianthium, compoſed of five oval, ſpear-ſhaped, permanent leaves.

2. Corolla is a ſingle petal ſhaped like a funnel. The tube, which is placed on the nectarium, is long and ſlender. The limb is erecto-patent, plicated, and obtuſely cut into five ſegments. The nectarium is globoſe, permanent, and placed below the petal.

3. Stamina are five ſlender, inclined, unequal filaments; theſe ariſe from the receptacle, and are affixed not to the nectarium, but the petal; they are about the length of the corolla, and their antheræ are roundiſh and aſſurgent.

4. Pistillum is a roundiſh germen placed within the nectarium, a filiforme ſtyle the length and ſituation of the ſtamina, and a round, punctated, aſſurgent ſtigma.

5. Pericarpium. There is none.

6. Semen. The ſeed is an oval, five-cornered nut.

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CHAP. CCXXVI.

MOLLUGO.

THERE is an Annual of this genus, called, Verticillated *Mollugo.*

The plant deſcribed. The ſtalk is ſlender, round, jointed, branching, and lies flat on the ground. The leaves are ſmall, wedge-ſhaped, acute, and uſually ſeven of them ſurround the ſtalk in a radiated manner at the joints. The flowers come out ſingly on their own ſeparate footſtalks at the joints; they are ſmall, and of a greeniſh colour, appear in July and Auguſt, and the ſeeds ripen in September.

Culture. This plant is propagated by ſowing the ſeeds in the autumn, ſoon after they are ripe, or the ſpring following; and when the plants have flowered, and the ſeeds ſcattered, they will come up ſpontaneouſly for a ſucceſſion without further trouble.

Titles. Verticil-lata, This ſpecies is titled, *Mollugo foliis verticillatis cuneiformibus acutis, caule ſubdiviſo decumbente, pedunculis unifloris.* Gronovius calls it, *Mollugo foliis ſæpius ſeptenis lanceolatis*; and Plukenet, *Alſine ſpergula Mariana, latiori folio, floribus ad nodos pediculis curtis circa caulem inſidentibus, calycibus eleganter punctatis.* It grows naturally in Virginia.

Claſs and order in the Linnæan Syſtem. The characters. *Mollugo* is of the claſs and order *Triandria Trigynia*; and the characters are,

1. Calyx is a perianthium compoſed of five oblong, erect, patent, permanent leaves, which are coloured on the inſide.

2. Corolla. There is none.

3. Stamina are three ſetaceous filaments ſhorter than the corolla, having ſimple antheræ.

4. Pistillum conſiſts of an oval, triſulcated germen, and three very ſhort ſtyles, with obtuſe ſtigmas.

5. Pericarpium is an oval capſule, formed of three valves, and containing three cells.

6. Semina. The ſeeds are numerous and reniforme.

CHAP. CCXXVII.

MOLUCCELLA, MOLUCCA BAUM.

Species. OF this genus there are two Annuals, viz.

1. Smooth Molucca Baum.
2. Prickly Molucca Baum.

Deſcription of Smooth, 1. Smooth Molucca Baum. The ſtalks are thick, ſquare, ſend forth branches by pairs, and grow to about a yard high. The leaves are roundiſh, ſmooth, crenated, of a light-green colour, and grow oppoſite by pairs on long footſtalks. The flowers come out in whorls round the ſtalks at the joints; they are very ſmall, but have large, ſpreading, prickly cups; their colour is white, having a mixture of red or purple, and the general characters ſhew their compoſition; they appear in July and Auguſt, and in favourable ſeaſons the ſeeds ripen in the autumn.

The root is ſtrongly, and, to many people, very agreeably ſcented.

and Prickly Molucca Baum. 2. Prickly Molucca Baum. The ſtalks are ſquare, ſmooth, purpliſh-coloured, ſend out branches by pairs, and grow to about a foot and a half or two feet high. The leaves are roundiſh, cut or jagged on the edges, and grow oppoſite on longiſh footſtalks. The flowers come out in whorls round the ſtalks at the joints, having large, ringent, ſpreading, prickly cups; they are ſmall, and of a reddiſh colour, appear in July and Auguſt, and are ſucceeded by ripe ſeeds in the autumn.

Culture. Theſe ſorts are raiſed by ſowing the ſeeds in the ſpring, in the common mould; but in order to have them flower earlier in the ſummer, to afford good ſeed with greater certainty, the beſt way will be to ſow the ſeeds thinly in pots filled with light, freſh earth in the autumn, as ſoon as they are ripe. The pots ſhould then be placed under a warm hedge, until the hard froſts ſeem to be ſet in, when they ſhould be removed under a hot-bed frame; but ſhould always have air in the day-time, and on the return of fine weather be ſet abroad, as before. By this time many of the plants will come up, and then a ſtricter eye muſt be kept over them, to remove them under ſhelter as freſh froſts ſucceed, or thoſe that have made their appearance will infallibly be deſtroyed. The reſt of the ſeeds will come up early in the ſpring, at which time it would not be amiſs to bring them forward by a very ſlight hot-bed. If they are allowed this aſſiſtance, the utmoſt care muſt be obſerved to give them plenty of air, to prevent their drawing weak and tender. When they are about three inches high they may be thinned, taking out the ſtrongeſt, and planting them ſeparately in ſmall pots, which ſhould be again plunged into a very ſlight hot-bed, and ſhaded and watered until they have taken root. The reſidue in the pots may remain until about the middle of May, or longer, if neceſſary; and then, on ſome moiſt day, they may be taken up, preſerving as much mould to the roots as poſſible, and ſet in the places where they are deſigned to flower. The plants in the ſmall pots, alſo, muſt about this time be turned out, with the mould at the roots, into their apartments; and both kinds will begin to exhibit their bloom in June, be in full perfection in July, and plenty of ripe ſeeds may be gathered for a ſucceſſion in the autumn.

The ſeeds alſo may be ſown in beds of common mould in the ſpring, and when they come up thinned to proper diſtances; but then ſuch plants will flower late in the ſummer, and the ſeeds ſeldom ripen.

Titles. 1. The firſt ſpecies is titled, *Moluccella calycibus campaniformibus ſubquinquedentatis: denticulis æqualibus.* Dodonæus calls it, *Molucca lævis*; and Caſpar Bauhine, *Meliſſa Moluccana odorata.* It grows naturally in Syria. Lævis.

2. The ſecond ſpecies is, *Moluccella calycibus ringentibus octodentatis.* Dodonæus calls it, *Molucca ſpinoſa*; and Caſpar Bauhine, *Meliſſa Moluccana fœtida.* It grows naturally in the Molucca iſlands. Spinosa.

CHAP. CCXXVIII.

MOMORDICA, MALE BALSAM APPLE.

Species. OF this genus there are,

1. Common Male Balſam Apple.
2. Yellow Indian Balſam Apple.
3. Green American Balſam Apple.
4. Cylindrical Balſam Apple.
5. Ægyptian Cucumber.
6. Trifoliate *Momordica.*
7. Pedated *Momordica.*

Deſcription of Common Male, 1. Common Male Balſam Apple. The ſtalks are in nature like thoſe of the Common Cucumber, being thick, tender, branching, trailing, and furniſhed with tendrils, to enable them to climb, or keep them ſteady in any poſition. The leaves are large, ſpreading, palmated, ſmooth, and have their edges beautifully cut into many ſegments. The flowers are male and female on the ſame plant; and they come out, like thoſe of the Cucumber, from the ſides of the young ſhoots as they are formed: The females are ſucceeded by very large, oval fruit, having many deep angles, with ſharp tubercles placed on the edges, and is of a reddiſh-purple colour when ripe.

Yellow Indian, 2. Yellow Indian Balſam Apple. The ſtalks are tender, trailing, poſſeſſed of claſpers, and extend themſelves four or five feet every way. The leaves are large, longitudinally palmated, hairy, and their edges are cut into many parts. The flowers come out like the former; and the fruit is very large, long, channelled, poſſeſſed of numerous tubercles, and is of a fine yellow colour when ripe.

Green American 3. Green American Balſam Apple. The ſtalks are thick, tender, poſſeſſed of claſpers, and ſix feet long. The leaves are large, and compoſed of three or five principal lobes, which are again divided or cut into many ſegments on the edges. The flowers are as uſual; and the fruit is large, deeply furrowed, having numerous tubercles along the edges of the angles, and is of a dark-green colour when ripe.

The ſeeds of this ſort are very black.

and Cylindrical Balſam Apple. 4. Cylindrical Balſam Apple. The ſtalks are thick, five-cornered, trailing, and poſſeſſed of claſpers. The leaves are large, angulated, ſerrated, indented, and not unlike thoſe of the Cucumber. The flowers are large, of a pale-yellow colour; and the fruit is near a foot long, proportionably thick, hairy, and full of black ſeeds when ripe.

Egyptian Cucumber 5. Ægyptian Cucumber. The ſtalks are tender and trailing, like the other ſorts. The leaves are nearly as large as the Common Cucumber, and their edges are cut into many ſegments. The flowers come out as uſual; and the fruit is large, oblong, furrowed, curiouſly netted, and opens when ripe with an elaſtick force for the diſcharge of the ſeeds, which in this ſpecies are of a white colour.

Trifoliate 6. Trifoliate *Momordica.* The ſtalks are tender, trailing, and poſſeſſed of claſpers. The leaves are trifoliate, being compoſed of three folioles, which are indented on their edges. The flowers are yellow, and ſometimes white; and the females are ſucceeded by oval, muricated fruit, opening with great elaſticity for the diſcharge of the ſeeds when ripe.

and Pedated Momordica deſcribed. 7. Pedated *Momordica.* The ſtalks are tender, and, like the other ſorts, unleſs ſupported, lie on the ground. The leaves are pedated, and ſerrated on their edges. The flowers are like the other ſorts; and the fruit is moderately large, nearly oval, ſmooth, and ſtriated.

All the ſpecies of this genus, when the fruit is full ripe, on the leaſt touch diſcharge their ſeeds with amazing elaſticity, often flying in the face and eyes of thoſe who touch them, to the great diverſion of the by-ſtanders.

They are all cultivated in curious gardens for the ſingularity of the fruit, and for the Gardeners to play tricks with on the ignorant.

Culture. They are all raiſed by ſowing the ſeeds in March on a hot-bed; and when they are in their third leaf, they ſhould be ſet out in another hot-bed in the manner of Cucumbers or Melons, taking care to plant enough, that you may be ſure of having two or three good plants under each light. Their after-management muſt be ſimilar to Cucumbers, though they muſt have rather leſs water; and if ſuch culture is allowed them, they will be healthy, and of a good colour, will flower early, and produce plenty of fruit, which will be ripe by about the middle of September. You muſt obſerve to ſave your ſeeds from the fineſt, largeſt, and faireſt fruit, and be punctual in gathering it as ſoon as the fruit is ripe, otherwiſe it will be diſcharged from the cells.

Some Gardeners ſet the plants in pots, place them in the ſtove, and train the ſtalks againſt ſticks or proper ſupports ſet there for the purpoſe. In this manner the fruit has a very pretty effect in theſe places; but as there are ſuch numbers of plants which call for ſtove-protection, and as theſe do better when lying on the ground like Cucumbers, they ſhould be raiſed accordingly, and never be introduced into the ſtove, unleſs there be a deficiency of other plants.

Titles. Balsamina 1. Common Male Balſam Apple is titled, *Momordica pomis angulatis tuberculatis, foliis glabris patenti-palmatis.* Caſpar Bauhine calls it, *Balſamina rotundifolia repens ſ. mas*; and Dodonæus, *Charantia.* It grows naturally in India.

Charantia. 2. Yellow Indian Balſam Apple is, *Momordica pomis angulatis tuberculatis, foliis villoſis longitudinalitèr palmatis.* Commeline calls it, *Balſamina cucumerina Indica, fructu majore flaveſcente*; and Rumphius, *Amara Indica.* It grows naturally in India.

3. Green American Balſam Apple is, *Momordica pomis angulato-tuberculatis, apice deciduo operculatis, foliis lobatis.* Commeline calls it, *Momordica Americana, fructu reticulato ſicco.* It grows naturally in America. Operculata

4. Cylindrical Balſam Apple is, *Momordica pomis cylindricis longiſſimis.* Herman calls it, *Pepo Indicus reticulatus, ſeminibus nigris*; and Ray, *Pepo reticulatus & ſulcatus, ſemine nigro.* It grows naturally in Ceylon and China. Cylindrica.

5. Ægyptian Cucumber is, *Momordica pomis oblongis: ſulcis catenulatis, foliis inciſis.* Moriſon calls it, *Cucumis Ægypticus reticulatus ſ. luffa Arabum*; and Rumphius, *Petola.* It grows naturally in Ceylon. Luffa.

6. Trifoliate *Momordica* is, *Momordica pomis ovatis muricatis, foliis ternatis dentatis.* Rumphius calls it, *Poppya ſylveſtris.* It grows naturally in India. Trifoliata.

7. Pedated *Momordica* is, *Momordica pomis ſtriatis, foliis pedatis ſerratis.* Fewill calls it, *Momordica fructu ſtriato lævi.* It is a native of Peru. Pedata.

CHAP. CCXXIX.

MONARDA.

THERE is one Annual of this genus, a very beautiful plant, called Spotted *Monarda.*

The plant deſcribed. The ſtalks are upright, ſquare, branching from the bottom to the top, and grow to be two feet high. The leaves are ſpear-ſhaped, narrow, ſerrated, of different ſizes, and grow in cluſters at the joints; the two larger ones are uſually placed oppoſite, the ſmaller come out on each ſide, and they are all of an agreeable odour. The flowers come out in large whorls round the ſtalks, each whorl having a large involucrum, compoſed of ten or twelve narrow, ſpear-ſhaped leaves, which are of a purpliſh-red colour on the inſide; they are large, and of a yellow colour ſpotted with purple; they appear in July and Auguſt, and are uſually ſucceeded by ripe ſeeds in the autumn.

Culture. This plant is propagated by ſowing the ſeeds in the autumn, as ſoon as they are ripe, in any bed of common mould made fine. Many of them will come up before winter, the reſt will come up in the ſpring; and after they have ſtood ſome time, the weakeſt plants ſhould be drawn out, leaving the ſtrongeſt to ſhoot up for flowering; which they will do, though late in the ſummer, and in favourable ſeaſons ripen their ſeeds. The weakeſt plants ſhould be ſet in beds at a foot diſtance from each other, and the ſummer following they will flower early, and perfect their ſeeds. Thus may a blow of theſe beautiful flowers, for two years, be obtained from one ſowing of the ſeed only. If you are in want of ſeeds of this ſort, the beſt way will be to cut the ſtalks of the forwardeſt plants, as they ſhoot up for flowering the firſt year, down to the ground: This will cauſe them to form new eyes from the root, which ſhooting early the ſummer following, will produce ſeeds in abundance.

This ſpecies is titled, *Monarda floribus verticillatis, corollis punctatis.* In the *Hortus Cliffort.* it is termed, *Monarda floribus verticillatis.* Plukenet calls it, *Clynopodium Virginianum anguſtifolium, quovis verticillo duodecim foliolis rubentibus cincto.* It grows naturally in Virginia. Titles. Punctata.

CHAP. CCXXX.

MONNIERIA.

THERE is at prefent only one fpecies of this genus, called *Monnieria.*

The plant defcribed. The ftalk is tender and dichotomous. The leaves are trifoliate. The flowers are white, and grow in fpikes at the upper-parts of the plant; they appear in July and Auguft, and the feeds ripen in the autumn.

Culture. This plant is propagated by fowing the feeds on a hot-bed in the fpring. After they come up, the ufual care due to tender feedlings muft accompany them, until they are three or four inches high; then, on a moift day, or, for want of that, on fome evening, they muft be taken up with a ball of earth to each root, and fet in fome warm, well-fheltered part of the garden. They muft be fhaded and duly watered at firft, and afterwards will require little trouble, except keeping them clean from weeds.

Titles. Trifolia. There being no other fpecies of this genus, it is named fimply, *Monnieria.* It grows naturally in America.

Clafs and order in the Linnæan Syftem. The characters. *Monnieria* is of the clafs and order *Diadelphia Hexandria*; and the characters are,

1. CALYX is a permanent perianthium, divided into five parts, the upper fegment being linear, long, and incurved. The exterior fegment is fpear-fhaped, and only half the length of the upper. The others are fhort, and obtufe.

2. COROLLA is tubular and ringent. The tube is cylindrical, more contracted in the middle, and curved. The limb is bilabiated. The upper lip is undivided, oval, and obtufe. The lower lip is ftraight, and divided into oblong, obtufe fegments. The nectarium is an oval fquamula at the bafe of the germen.

3. STAMINA are two plane, membranaceous filaments, the upper being concave, and bifid at the top; the inferior plane and trifid. The two antheræ of the upper filaments are hairy on the inner fide, grow together, and include the ftigma. The three antheræ belonging to the lower filament are taper, and extremely fmall.

4. PISTILLUM confifts of a roundifh, pentangular, five-lobed germen, a filiforme ftyle, and a capitated, oblong ftigma.

5. PERICARPIUM confifts of five oval, compreffed capfules.

6. SEMINA. The feeds are fingle, and oval.

CHAP. CCXXXI.

MONTIA.

THERE is only one fpecies of this genus, called Water Chickweed.

The plant defcribed. The root confifts of many fine, flender, white fibres. The ftalks are round, jointed, ufually of a reddifh colour, and lie on the ground. The leaves are fmall, oval, narrow, of a pale-green colour, and grow oppofite by pairs at the joints. The flowers are produced fometimes fingly, and fometimes two or three together, from the wings of the leaves along the fides of the branches, on footftalks; they are very fmall, and of a whitifh colour; they appear in April, and are occafionally to be met with all fummer.

This fpecies grows naturally in moift places, and is never cultivated. It is to be met with by the fides of fprings, fountains, and flowing waters, and in wet feafons frequently in corn-fields.

Titles. Fontana. This being the only fpecies of the genus, it is named fimply, *Montia.* Micheli calls it, *Montia aquatica minor*; Dillenius, *Cameraria arvenfis minor*; Plukenet, *Alfine formis paludofa tricarpos*; Vaillant, *Alfinoides annua verna*; Ray, *Alfine paluftris, portulacæ aquaticæ fimilis*; and Cafpar Bauhine, *Portulaca arvenfis.* It is a native of England, and moft countries of Europe.

Clafs and order in the Linnæan Syftem. The characters. *Montia* is of the clafs and order *Triandria Trigynia*; and the characters are,

1. CALYX is a perianthium compofed of two oval, concave, obtufe, erect, permanent leaves.

2. COROLLA is one petal divided into five parts, three of which are fmaller than the other, grow alternately with the two larger, and fupport the ftamina.

3. STAMINA are three capillary filaments the length of the corolla, into which they are inferted, having fmall antheræ.

4. PISTILLUM confifts of a turbinated germen, and three hairy, patent ftyles, with fimple ftigmas.

5. PERICARPIUM is a turbinated, obtufe, covered capfule, formed of three valves, and containing one cell.

6. SEMINA. The feeds are three, and roundifh.

CHAP. CCXXXII.

MYAGRUM, GOLD OF PLEASURE.

Species.

OF this genus are,

1. Common Engliſh Gold of Pleaſure.
2. Oriental Gold of Pleaſure.
3. Rough-podded Gold of Pleaſure.
4. Perfoliate Gold of Pleaſure.
5. Paniculated Gold of Pleaſure.
6. Spaniſh Gold of Pleaſure.

Deſcription of the Common Engliſh Gold of Pleaſure.

1. Common Engliſh Gold of Pleaſure. The ſtalks are upright, pithy, round, ſmooth, branching, and grow to about a foot and a half high. The leaves are oblong, pointed, ſmooth, indented, eared at the baſe, and of a yellowiſh-green colour. The flowers come out in looſe ſpikes from the tops of the ſtalks and branches; they are ſmall, and of a yellow colour, and the general characters ſhew their compoſition; they appear in June and July, and are ſucceeded by oval capſules, containing roundiſh, red ſeeds, which ripen in September.

Variety.

There is a variety of this ſpecies with white flowers.

Oriental,

2. Oriental Gold of Pleaſure. The ſtalks are upright, firm, branching, and two feet high. The leaves are large, oblong, ſinuated, indented, and of a pale-green colour. The flowers come out in ſpikes from the tops of the plant; they are ſmall, of a white colour, appear in July, and are ſucceeded by ſmall, furrowed capſules, containing ripe ſeeds, in the autumn.

Rough-podded,

3. Rough-podded Gold of Pleaſure. The ſtalks are round, upright, branching, and a foot and a half high. The leaves are oblong, obtuſe, and indented on the edges. The flowers come out in ſpikes from the ends of the branches; they are ſmall, of a yellow colour, appear in July, and are ſucceeded by rough, hairy, ſulcated pods, containing ripe ſeeds, in the autumn.

Perfoliate

4. Perfoliate Gold of Pleaſure. The ſtalks are upright, ſmooth, branching, and two feet and a half high. The leaves are broad, and about half a foot long; they are of a thickiſh ſubſtance, ſmooth, ſucculent, indented on the edges, and embrace the ſtalk with their baſe. The flowers come out in long ſpikes from the ends of the branches; they are of a yellow colour, and have very ſhort footſtalks; they appear in July, and are ſucceeded by heart-ſhaped, compreſſed pods, containing ripe ſeeds, in the autumn.

Paniculated,

5. Paniculated Gold of Pleaſure. The ſtalks are hairy, brittle, paniculated, and a foot and a half high. The leaves are nearly ſix inches long, pointed, hairy, ſucculent, and eared at the baſe. The flowers come out in ſhort, looſe ſpikes from the ends of the branches; they are ſmall, and of a white or paliſh-yellow colour; they appear in July, and are ſucceeded by ſmall, round, ſpotted, rough, compreſſed pods, containing ripe ſeeds in the autumn.

and Spaniſh Gold of Pleaſure deſcribed.

6. Spaniſh Gold of Pleaſure. The ſtalks are rough, hairy, branching, and about a foot high. The leaves are oblong, lyre-ſhaped, indented, and grow on ſhort footſtalks. The flowers are produced in long, looſe ſpikes from the ends of the branches; they are of a yellow colour, appear in June and July, and are ſucceeded by ſmooth, cylindrical, wreathed pods, containing ripe ſeeds, in September.

Culture.

The firſt five ſpecies are Annuals, the ſixth is a Biennial. They are propagated by ſowing the ſeeds in the autumn, ſoon after they are ripe, or in the ſpring. After they come up, they will require no trouble, except thinning them where they are too cloſe, and keeping them clean from weeds: And after they have once flowered, and the ſeeds are ſcattered, plants enough will ſpontaneouſly ariſe, and maintain the ſucceſſion without further trouble.

Titles.

1. Common Engliſh Gold of Pleaſure is titled, *Myagrum ſiliculis obovatis pedunculatis polyſpermis.* Caſpar Bauhine calls it, *Myagrum ſylveſtre*; alſo, *Myagrum ſativum*; alſo, *Myagrum fœtidum*; Dodonæus, *Camelina ſ. myagrion*; and Haller, *Alyſſon foliis auriculatis glabris profundè dentatis.* It grows naturally in cultivated fields in England, and moſt countries of Europe. Sativum.

2. Oriental Gold of Pleaſure is, *Myagrum ſiliculis ſulcatis lævibus, foliis oblongis dentato-ſinuatis.* Boerhaave calls it, *Rapiſtrum orientale, folio raphani, capſulis rugoſis.* It is a native of the Eaſt. Orientale.

3. Rough-podded Gold of Pleaſure is, *Myagrum ſiliculis ſulcatis piloſis rugoſis, foliis oblongis obtuſis dentatis.* It grows naturally in moſt of the ſouthern parts of Europe. Rugosum.

4. Perfoliate Gold of Pleaſure is, *Myagrum ſiliculis obcordatis ſeſſilibus, foliis amplexicaulibus.* Caſpar Bauhine calls it, *Myagrum monoſpermum latifolium.* It is common in the corn-fields of Switzerland, France, and Italy. Perfoliatum.

5. Paniculated Gold of Pleaſure is, *Myagrum ſiliculis lentiformibus orbiculatis punctato rugoſis.* Caſpar Bauhine calls it, *Myagro ſimilis ſiliquâ rotundâ*; and Loefler, *Myagrum monoſpermum hirſutum, ſiliquis rotundis.* It is common in moſt parts of Europe. Paniculatum

6. Spaniſh Gold of Pleaſure is, *Myagrum ſiliculis lævibus ſubtoroſis, foliis lyratis.* Tournefort calls it, *Sinapi Hiſpanicum minus, raphani folio.* It grows naturally in Spain. Hispanicum.

CHAP. CCXXXIII.

MYOSOTIS, MOUSE-EAR SCORPION-GRASS.

THE Annuals of this genus are uſually called,

Species.

1. Little Blue Hound's Tongue.
2. Virginian Hound's Tongue.
3. Small Yellow Viper's Bugloſs.

Deſcription of Little Blue

1. Little Blue Hound's Tongue. The ſtalk is ſlender, angular, hairy, branching, and about a foot and a half high. The leaves are ſpear-ſhaped, narrow, pointed, hairy, hoary, ſoft to the touch, and grow alternately on the ſtalks. The flowers come out in long, curled ſpikes from the ends of the branches, are ſmall, placed alternately in their curled-up ſpikes, and of a beautiful clear-blue colour; they appear in June and July, and the ſeeds ripen in September.

and Virginian Hound's Tongue.

2. Virginian Hound's Tongue. The ſtalks are ſlender, and divide into a multitude of branches, which ſpread themſelves every way. The leaves are oval, oblong, ſpear-ſhaped, and of a bluiſh-green colour. The flowers are produced from the ends of the branches in the ſame kind of crooked, curled ſpikes as the former; they are extremely ſmall, of a blue colour, appear in June and July, and the ſeeds ripen in the autumn.

Small Yellow Viper's Bugloſs deſcribed.

3. Small Yellow Viper's Bugloſs. The ſtalks are rough, hairy, branching, and about a foot high. The leaves are ſpear-ſhaped, and very rough. The flowers come out in leafy ſpikes from the ends of the branches; they are very ſmall, of a yellow colour, appear in June and July, and the ſeeds ripen in the autumn.

Culture.

All theſe ſpecies are propagated by ſowing the ſeeds as ſoon as they are ripe, or in the ſpring following. When they come up, they will require no trouble, except thinning them where they are too cloſe, and keeping them clean from weeds; and after they have once flowered, and the ſeeds are ſcattered, the plants will regularly ariſe for a ſucceſſion without any art of the Gardener.

Titles.

1. Little Blue Hound's Tongue is titled, *Myoſotis ſeminibus aculeis glochidibus, foliis lanceolatis piloſis.* In the *Hortus Cliffort.* it is termed, *Lithoſpermum ſeminibus echinatis.* Guettard calls it, *Cynogloſſum foliis lanceolatis, floribus in foliorum alis ſubſeſſilibus*; and Caſpar Bauhine, *Cynogloſſum minus.* It is common in moſt parts of Europe, except England.

Lappula.

2. Virginian Hound's Tongue is, *Myoſotis ſeminibus aculeatis glochidibus, foliis ovato-oblongis, ramis divaricatis.* Gronovius calls it, *Myoſotis ſeminibus hiſpidis, foliis lanceolato-ovatis*; and Plukenet, *Cynogloſſum Virginianum, flore & fructu minimo.* It grows naturally in Virginia.

Virginica.

3. Small Yellow Viper's Bugloſs is, *Myoſotis ſeminibus nudis, foliis hiſpidis, racemis folioſis.* Van Royen calls it, *Lithoſpermum ſeminibus lævibus, corollis vix calycem ſuperantibus, foliis lanceolatis*; Caſpar Bauhine, *Echium luteum minimum*; Columna, *Echioides lutea minima Apula campeſtris*; and Lobel, *Anchuſa lutea minima.* It grows naturally in France, Italy, and Spain.

Apula.

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CHAP. CCXXXIV.

MYOSURUS, MOUSE-TAIL.

The plant deſcribed.

THERE is only one ſpecies of this genus, called Mouſe-Tail.

The root is compoſed of a multitude of white, ſlender fibres. The leaves are numerous, two inches long, narrow, graſſy, and of a deep-green colour. The ſtalks are ſimple, naked, round, green, ſlender, and two or three inches high. At the top of each ſtalk is a long, cylindrical body, often of a blackiſh-green colour, thicker than the ſtalk, finely imbricated by the ſeeds, and aſſuming the appearance of a mouſe's tail; from whence this plant derives its name. The flowers, ſeparately, are very ſmall, and of a greeniſh colour, having yellow antheræ; they appear in April and May, and are ſucceeded by the ſeeds, beautifully diſpoſed in the above imbricated manner on the long receptacle, and which ripen in June and July.

Culture.

The culture of this ſpecies is never attempted, but when a perſon is deſirous of having a plant or two ready for obſervation. Whoever is inclined to have them in his garden, may eaſily obtain them by ſowing the ſeeds ſoon after they are ripe; for they will ſoon come up, and flower in April the ſpring following. The ſeeds will ripen in June, and, ſcattering, will afford plants enough for a ſucceſſion.

Titles.

There being no other ſpecies of this genus, it ſtands with the name, ſimply, *Myoſurus.* In the *Hortus Cliffort.* it is termed, *Myoſurus foliis integerrimis.* Caſpar Bauhine calls it, *Holoſteo affinis cauda muris*; Gerard, *Cauda muris*; and Parkinſon, *Holoſteum Loniceri, cauda muris vocatum.* It grows common in dry meadows, paſtures, banks, lanes, corn-fields, &c. in England and in moſt parts of Europe.

Minimus.

Claſs and order in the Linnæan Syſtem. The characters.

Myoſurus is of the claſs and order *Pentandria Polygynia*; and the characters are,

1. Calyx is a deciduous perianthium compoſed of five ſemi-lanceolated, obtuſe, reflexed, coloured leaves, which join together a little above the baſe.

2. Corolla is five minute petals, ſhorter than the calyx, tubular at their baſe, and open obliquely.

3. Stamina are five (or more) filaments, the length of the calyx, having oblong, erect antheræ.

4. Pistillum conſiſts of numerous germina placed on the long receptacle, having no ſtyles, but ſimple ſtigmas.

5 Pericarpium. There is none. The lower receptacle is entire, when covered with the ſeeds placed imbricatim.

6. Semina. The ſeeds are numerous, and roundiſh.

CHAP. CCXXXV.

NICOTIANA, TOBACCO.

Introduction.

TOBACCO has not been known in Europe much longer than two hundred years. It was firſt introduced by a Dutchman from America; and from him ſome ſeeds were obtained by James Nicotus, the King of France's Ambaſſador at the Court of Portugal, who introduced it into the Queen's garden in France. Hence the term *Nicotiana* was given for the Latin name of this genus. It grows naturally in the iſland of Tobago, and is called by the inhabitants Tobac, which has occaſioned the name Tobacco to be uſed by us as its Engliſh appellation.

Of Tobacco there are the following ſpecies, viz.

Species.

1. Virginian Tobacco.
2. Engliſh Tobacco.
3. Small-leaved Tobacco of Peru.
4. Gum-leaved Peruvian Tobacco.
5. Dwarf Primroſe-leaved Tobacco.
6. Shrubby Tobacco.
7. Prickly Shrubby Tobacco.

All theſe are diſtinct ſpecies, and include ſeveral varieties for our gardens.

Virginian Tobacco.

1. Virginian Tobacco is ſo called by our Gardeners for diſtinction's ſake; but the reader muſt not ſuppoſe it is peculiar to that country, for it grows in moſt parts of America. The varieties of it have different names, according to the places from whence they are ſuppoſed originally to come.

Deſcription of it.

The Virginian Tobacco is a noble Annual, and flouriſhes as well in our gardens as in any part of America. In a rich ſoil, it will grow to be about eight or nine feet high. The ſtalk is round, firm, branching near the top, of a pale-green colour, hairy, and full of pith. The leaves are large, of a ſoft-green colour, ſpear-ſhaped, hairy, and half embrace the ſtalk with their baſe. The flowers terminate the branches in plenty, grow erect, and are of a delicate ſoft red colour: They will be in blow in July or Auguſt; and though each individual flower is of ſhort duration, yet there will be a ſucceſſion of them on the ſame plant until the winter froſts put a ſtop to them, before which time good ſeeds from the firſt-blown flowers may be gathered.

Engliſh Tobacco deſcribed.

2. Engliſh Tobacco is ſo called, not becauſe it is a native of England, but becauſe it is the ſpecies that was firſt introduced into England, and thrives as well in our ſoils as in its native place of growth. As an Annual flower, it is much inferior to the former ſpecies, though not without its beauties. It will grow to about a yard high. The ſtalks are upright, firm, and branching; they ſpread themſelves in an agreeable manner, and are ornamented with very fine, large, oval, ſmooth leaves, growing alternately on ſhort footſtalks on the branches. The flowers terminate the ſtalks in kind of bunches; they are of a bad yellow colour, and at a diſtance look like thoſe of Henbane. Hence, by ſome old Botaniſts, this plant has been taken for a ſpecies of Henbane; tho' without the leaſt real foundation, as the different characters of theſe two plants will ſhew. They will be in blow in July and Auguſt, and afford good ſeeds in September.

Variety.

There is a variety of this ſpecies of rather larger growth, as to the height of the ſtalk, and the ſize of the leaves and flowers, but ſcarcely differing in any other reſpect.

Small-leaved Tobacco of Peru deſcribed.

3. Small-leaved Tobacco of Peru. This ſpecies riſes with an upright, branching ſtalk, to about a yard high. The leaves are heart-ſhaped, and ſmall for a plant of this family, being ſcarcely four inches long, and three broad; their edges are entire, and they are placed on moderately long footſtalks on the branches. The flowers terminate the branches in panicles, are of a greeniſh-yellow colour, will be in blow in July or Auguſt, and afford good ſeeds in the autumn.

Deſcription of Gum-leaved Peruvian and Dwarf Primroſe-leaved Tobacco.

4. Gum-leaved Peruvian Tobacco. This ſpecies will grow to about four feet high. The ſtalk is upright, round, firm, and branches a little near the ground. The leaves are cordated, and much larger than thoſe of the former ſpecies; they are poſſeſſed of a kind of glutinous or gummy matter, are a little waved, and placed on long footſtalks on the branches. The flowers terminate the ſtalks in looſe ſpikes, are of a very bad purple colour, and are divided in ſuch a manner as to have the appearance of a ringent flower; they flower in July or Auguſt, and ripen their ſeeds in the autumn.

5. Dwarf Primroſe-leaved Tobacco. The root is thick, taper, and ſtrikes deep into the ground; and from this riſe a few oblong, oval leaves, in ſize and ſhape like thoſe of the Common Primroſe. Among theſe leaves riſes the flower-ſtalk, which divides into a few branches, will grow to about a foot high, and is garniſhed with ſmall leaves placed ſingly at the joints. The flowers terminate the ſtalks in looſe ſpikes, are of a greeniſh-yellow colour, will be in blow in July, and ripen their ſeeds in September.

Shrubby Tobacco deſcribed.

6. Shrubby Tobacco. This plant riſes with a woody, branching ſtalk, to the height of about five feet. The leaves are narrow, ſpear-ſhaped, pointed, and half embrace the ſtalk with their baſe. The flowers terminate the ſtalks in bunches, are of a bright-purple colour, will be in blow in July and Auguſt, and ripen their ſeeds in the autumn.

Varieties.

There are two varieties of this ſpecies; one with white, and another with pale-purple flowers. They may be all treated as Annuals; but if they are removed into the ſtove or green-houſe before the cold weather comes on, they will live for two or three years.

Prickly Shrubby Tobacco deſcribed.

7. Prickly Shrubby Tobacco. This ſpecies hath a ſhrubby, branching, prickly ſtalk. The leaves are heart-ſhaped, crenated, and grow on long footſtalks. The flowers terminate the branches in kind of recurved ſpikes; they are bell-ſhaped, of a whitiſh colour, will be in blow in Auguſt and September, and, if they are removed into the ſtove or green-houſe before the bad weather comes on, may be continued beautiful for a long time.

Culture of the Engliſh Tobacco.

The culture of all theſe ſpecies is very eaſy. That ſpecies called the Engliſh Tobacco may be raiſed by ſowing the ſeeds in the ſpring, in any bed of common mould; though the richer it be, the ſtronger the plants will afterwards ſhew themſelves. The ſeeds muſt be ſcattered very thinly; and where the plants come up too cloſe, they muſt be drawn out, either to be planted in other places, or thrown away, leaving the ſtrongeſt in the bed, at two feet diſtance from each other. They will then flower ſtrong, ſhew themſelves in their greateſt beauty, and will relieve you from any further trouble; for from that time they will ſow their ſeeds, and keep up the ſucceſſion ſpontaneouſly.

Culture of the other ſpecies.

The other ſpecies require a little more trouble in raiſing, though not much. Sow the ſeeds in March on a moderate hot-bed. When the plants come up, give them as much air as the weather will permit, and frequently water them. In this bed let them grow until all danger of froſt is over; and then, in an evening or ſome moiſt day, remove them to the places where they are deſigned to flower.

Proper Method of planting the largeſt Virginian Tobacco.

The largeſt ſort of the Virginian Tobacco looks very beautiful when planted in double rows continued to a great length. In this caſe, they ſhould be ſet only a foot and a half aſunder. The diſtances of the rows ſhould be the ſame; and the plants ſhould not be ſet oppoſite to each other, but to anſwer the vacancy in the oppoſite row. Thus, in the autumn, they will form, as it were, an hedge upwards of ſix feet high; and by their large leaves, and upright firm ſtalks, of a fine green colour, together with their ſhow of flowers, of ſo delicate a red colour, arranged along the top of it in great plenty, they have a very noble and elegant look. Theſe plants love a rich moiſt ſoil; and when they are planted for uſe, they ſhould be ſet at leaſt a yard aſunder; when they will be as luxuriant, and in as great perfection here, as in Virginia. The time for cutting them for uſe is early in Auguſt, before the leaves become too old.

Propagation of the Shrubby ſpecies.

The Shrubby ſpecies may be raiſed on a rich, light border, in the ſpring; and when the plants are fit to remove, each ſhould be ſet in a ſeparate pot, and the pots then plunged up to the rims in the kitchen-garden. The plants ſhould be ſhaded until they have taken root, and often watered all ſummer; and if, as the early colds advance, they are removed into the ſtove, they will continue their progreſs of growth, and will flower in the winter, when few others are to be obtained.

Titles.

1. The Virginian Tobacco is titled, *Nicotiana foliis lanceolato-ovatis ſeſſilibus decurrentibus, floribus acutis.* In the *Hortus Cliffort.* it is termed, *Nicotiana foliis lanceolatis.* Caſpar Bauhine calls it, *Nicotiana major latifolia*; and Renealme, *Blennochoes.* It grows naturally in many parts of America.

Tabacum.

2. Engliſh Tobacco is, *Nicotiana foliis petiolatis ovatis integerrimis, floribus obtuſis.* In the *Hortus Cliffort.* it is termed, *Nicotiana foliis ovatis.* Caſpar Bauhine calls it, *Nicotiana minor*; and Renealme, *Pachyphylla.* It is a native of America, and grows now with us as common as in its own country.

Rustica.

3. Small-leaved Tobacco of Peru is, *Nicotiana foliis petiolatis cordatis integerrimis, floribus paniculatis obtuſis clavatis.* In the former edition of the *Species Plantarum* it is termed, *Nicotiana foliis cordatis, floribus paniculatis, tubis clavatis.* Fewill calls it, *Nicotiana minor, folio cordiformi, tubo floris prælongo.* It is a native of Peru.

Paniculata

4. Gum-leaved Peruvian Tobacco is, *Nicotiana foliis petiolatis cordatis integerrimis, floribus racemoſis ſecundis ringentibus.* It was titled before, *Nicotiana foliis cordatis, corollis racemoſis ſubringentibus, calycibus inæqualibus.* It grows naturally in Peru.

Glutinosa.

5. Dwarf Primroſe-leaved Tobacco is, *Nicotiana foliis oblongo-ovalibus radicalibus, floribus racemoſis acutis.* Miller calls it, *Nicotiana foliis ovato-lanceolatis, obtuſis rugoſis, calycibus breviſſimis.* It grows naturally at La Vera Cruz.

Pusilla.

6. Shrubby Tobacco is titled, *Nicotiana foliis lanceolatis ſubpetiolatis amplexicaulibus, floribus acutis, caule fruticoſo.* Miller calls it, *Nicotiana foliis lineari-lanceolatis acuminatis ſemiamplexi-caulibus, caule fruticoſo.* It grows naturally at the Cape of Good Hope, and in China.

Fruticosa.

6. Prickly Shrubby Tobacco is, *Nicotiana foliis petiolatis cordatis crenatis, racemis recurvatis caule aculeato pruriginoſo fruteſcente.* Plumier calls it, *Nicotiana arboreſcens ſpinoſiſſima, flore exalbido.* It grows naturally in America.

Urens.

Claſs and order in the Linnæan Syſtem.

Nicotiana is of the claſs and order *Pentandria Monogynia*; and the characters are.

The characters.

1. Calyx is a monophyllous, oval, permanent perianthium, divided into five ſegments.

2. Corolla is an infundibuliforme petal. The tube is longer than the calyx. The limb is ſpreading, plicated, and cut into five acute ſegments.

3. Stamina are five ſubulated filaments nearly the length of the corolla, with oblong antheræ.

4. Pistillum conſiſts of an oval germen, a filiforme ſtyle the length of the corolla, and a capitated, emarginated ſtigma.

5. Pericarpium is an oval capſule of two cells; it is furrowed on each ſide, and opens at the top.

6. Semina. The ſeeds are numerous, reniforme, and rough.

C H A P. CCXXXVI.

NIGELLA, FENNEL FLOWER, or DEVIL IN A BUSH.

THERE are five diſtinct ſpecies of this genus, all of which are Annuals. They contain many varieties, and are called,

Species.

1. French *Nigella.*
2. Ægyptian *Nigella.*
3. German Corn *Nigella.*
4. Spaniſh *Nigella.*
5. Oriental *Nigella.*

Spaniſh Nigella deſcribed.

1. French *Nigella* riſes with an upright, branching ſtalk to a foot and a half in height. The leaves are beautifully cut into a multitude of fine, long, narrow ſegments. The flowers are of a blue colour, and are ſurrounded by a long, leafy involucrum.

Varieties.

There is a variety of this ſpecies with white flowers; and there are alſo varieties with very double flowers of both kinds. They flower in the ſummer, and are ſucceeded by large ſwoln ſeed-veſſels, having horns, which bend different ways at the top.

Ægyptian Nigella deſcribed.

2. Ægyptian *Nigella* uſually grows to about a foot and a half high. The leaves are ſhorter and not ſo narrow as thoſe of the former ſpecies, and are a little hairy. The flowers are white, and are ſucceeded by large ſwoln ſeed-veſſels, with five horns, bending different ways at the top.

Varieties.

There are two or three varieties of this ſpecies; one of which is of low growth, ſeldom riſing to the height of a foot; another is finely ſcented. All of them have their varieties with double flowers.

Deſcription of German Corn,

3. German Corn *Nigella* uſually grows to about a foot high, and the ſtalks are ſlender and branching. The leaves are finely divided in the manner of Dill. The flowers are produced ſingly from the tops of the ſtalks, but they have no leafy involucrums under them; they are of a pale-blue colour, and are ſucceeded by large, turbinated ſeed-veſſels, with five horns at the top, bending different ways.

Spaniſh,

4. Spaniſh *Nigella* grows to about a foot and a half high. The leaves are very beautiful, and broader than thoſe of any of the former ſpecies. The ſtalks are terminated by a ſingle, large, blue flower, having ten piſtils of equal length with the petals. The flowers alſo of this ſpecies are larger than any of the others; and the variety of it with double flowers is much admired.

and Oriental Nigella.

5. Oriental *Nigella* riſes with a branching ſtalk to the height of about a foot and a half. The leaves are long, and the ſegments are narrow and beautiful. The petas of the flowers are of a yellowiſh colour; and each flower has ten piſtils that are longer than the petals. They flower in the ſummer, and are ſucceeded by many horned capſules joined together, which open lengthways, and contain thin, compreſſed, bordered ſeeds.

Method of propagation.

Whoever is fond of theſe flowers muſt be careful in ſaving the ſeeds from the beſt Doubles; for the Single ſorts make but little ſhow, and, as flowers ſimply for this purpoſe, are ſcarcely worth cultivating. Mark, therefore, the healthieſt and moſt Double plants, and pull up all Semi-doubles and Single ones that grow near them. When the ſeeds are ripe, lay them in a dry, airy place for a few days; then take them out of their veſſels, put them in a clean paper-bag, and hang them up in the ſeed-room to be ready for uſe.

Let the firſt ſowing be made in the autumn, and the plants will flower ſtrong and early the ſummer following. The next ſowing ſhould be made in March; and if a perſon is remarkably fond of theſe flowers, a third ſowing may be effected the end of April, or the beginning of May, from the plants whereof flowers will be produced at the end of autumn. After the plants are come up, nothing more need be done than to thin them where they grow too cloſe, and to keep them clean from weeds. When they come to flower, the ſtrongeſt and doubleſt ſhould be marked for ſeeds, which ought alſo to be collected from the earlieſt-blowing plants.

Titles.

1. The firſt ſpecies is titled, *Nigella floribus involucro folioſo cinctis.* Caſpar Bauhine calls it, *Nigella anguſtifolia, flore majore ſimplici cæruleo.* In its Double ſtate he terms it, *Nigella flore majore pleno cæruleo.* Matthiolus calls it, *Melanthum ſylveſtre.* It grows naturally in corn-fields in France and Spain. Damascena.

2. The ſecond ſpecies is, *Nigella piſtillis quinis, capſulis muricatis ſubrotundis, foliis ſubpiloſis.* Caſpar Bauhine calls it, *Nigella flore minore ſimplici candido.* In its Double ſtate he terms it, *Nigella flore minore pleno & albo.* Cammerarius calls it, *Melanthum ſativum.* It grows naturally in Ægypt, Crete, and Germany. Sativa,

3. The third ſpecies is, *Nigella piſtillis quinis, petalis integris, capſulis turbinatis.* In the *Hortus Cliffort.* it is termed, *Nigella flore foliis nudo, piſtillis corollam æquantibus.* Caſpar Bauhine calls it, *Nigella arvenſis cornuta*; Cammerarius, *Melanthum ſylveſtre alterum.* It grows naturally among the corn in Germany. Arvensis.

4. The fourth ſpecies is titled, *Nigella piſtillis denis corollam æquantibus.* Caſpar Bauhine calls it, *Nigella latifolia, flore majore ſimplici cæruleo.* It grows naturally in Spain, and about Montpelier in France. Hispanica.

5. The fifth ſpecies is termed, *Nigella piſtillis denis corollâ longioribus.* Moriſon calls it, *Nigella Chalepenſis lutea, corniculis longioribus.* It grows naturally near Aleppo. Orientalis.

Claſs and order in the Linnæan Syſtem. The characters.

Nigella is of the claſs and order *Polyandria Hexagynia*; and the characters are,

1. CALYX. There is none; though the floral leaves in ſome ſpecies have very much the appearance of a perianthium.

2. COROLLA conſiſts of five oval, plane, obtuſe, patent petals, that are contracted at their baſe. There are eight very ſhort nectaria placed in a ring; each of them is bilabiated. The exterior lip is larger than the interior, bifid, plane, convex, and marked with two dots. The in-

terior lip is ſhorter and narrower, and from an oval ends in a line.

3. STAMINA are numerous ſubulated filaments, that are ſhorter than the petals, having compreſſed, obtuſe, erect antheræ.

4. PISTILLUM conſiſts either of five or ten oblong, convex, compreſſed, erect germina, enduing in very long, ſubulated, angular, revolute, permanent ſtyles, with ſtigmas growing longitudinally.

5. PERICARPIUM conſiſts of a like number of oblong, compreſſed, acuminated capſules, connected within by a ſuture, and opening upwards on their inward ſide.

6. SEMINA. The ſeeds are numerous, angular, and rough.

CHAP. CCXXXVII.

OCYMUM, BASIL.

Introduction.

THE different ſpecies of Baſil are reckoned the ſtrongeſt aromatics we have in Nature. Their odour, in general, is very agreeable, and would be highly refreſhing, could we have it in a leſs degree; but the odoriferous particles are emitted from the plant in ſuch amazing profuſion, as to cauſe the ſcent to be too powerful for many perſons. Hence, ſome highly eſteem theſe plants, while others cannot bear them near them. They are univerſally cultivated, however, in curious gardens; and the real ſpecies are,

Species.

1. Common Baſil.
2. Buſh Baſil.
3. Indian Baſil.
4. American Baſil.
5. China Baſil.
6. Narrow-leaved Baſil of Ceylon, or Ceylon Mint.

Common Baſil.

1. Common Baſil. This ſpecies admits of ſo many varieties, that it is ſcarcely poſſible to give a deſcription of it. Deſcribe a plant in its full perfection, gather the ſeeds of it when ripe, and raiſe other plants from them, and there will be found many that will not anſwer the deſcription of the mother-plant. So wantonly does Nature ſport with varieties in this ſpecies!

Deſcription of it.

The ſuppoſed original ſort, however, riſes with a four-cornered, hairy, branching ſtalk, to about a foot, or more, in height. The leaves are large, oval, ſmooth, of a pale-green colour, and, like the branches, grow oppoſite by pairs. The main-ſtalks and branches are terminated by the flowers growing in whorled ſpikes. Theſe flowers are of a whitiſh colour, and appear earlier or later in the ſummer, according as they have been forwarded by the hot-bed in the ſpring.

The principal varieties of this ſpecies are,

Varieties.

The Large Purple-leaved Baſil.
The Curled-leaved Baſil.
The Fringed-leaved Baſil with Purple Leaves.
The Green Fringed-leaved Baſil.
The Green Studded-leaved Baſil.
The Baſil with Leaves of Three Colours.
The Red-flowered Baſil.
The Dark Purple-flowered Baſil.
The Violet-flowered Baſil.

Theſe varieties alſo vary pretty much in ſcent, though the ſtrong ſcent of the Clove will, in general, be predominant. There is a ſort that ſmells pretty much like Citron, and another like Fennel, which properties are pretty permanent, if care is taken in preſerving the ſeeds.

Buſh Baſil deſcribed.

2. Buſh Baſil is a low plant about half a foot high. It ſends out many branches from the bottom, and forms itſelf into a round, buſhy head. The leaves are ſmall, oval, ſmooth, entire, and grow oppoſite on ſhort footſtalks. The flowers are produced in whorls round the tops of the branches; they are ſmall, and appear in the ſummer proportionally ſooner as the plants have been forwarded in the ſpring; but they ſeldom produce ſeeds in our gardens, unleſs they are ſheltered from cold and wet.

The varieties of this ſpecies are,

Varieties.

The Dark Purple-leaved Buſh Baſil.
The Hoary-leaved Buſh Baſil.
Buſh Baſil with Variable Leaves.

The ſcent of theſe ſorts, in general, is not ſo overpowering as that of the others.

Deſcription of Indian,

3. Indian Baſil. The ſtalk of this ſpecies is erect, and ſhrubby. The leaves are broad, ſpear-ſhaped, and oval. The flowers are produced in ſpikes from the ends and ſides of the ſtalks; and if the plants are frequently potted and heated in the ſtove, they will not only ripen their ſeeds, but may alſo be made to continue two or three years.

This ſpecies, to many perſons, his a moſt grateful odour.

American,

4. American Baſil. The ſtalk is herbaceous. The leaves are nearly ſpear-ſhaped, ſlightly ſerrated, and ſharp-pointed. The flowers terminate the ſtalks in ſpikes; and if they are protected from cold and wet, they will frequently be ſucceeded by good ſeeds.

China,

5. China Baſil. The ſtalk is taper, purpliſh, hairy, branching, and about a foot and a half high. The leaves are oval, oblong, ſerrated, obtuſe, and placed on moderately-long footſtalks. The ſtalks are terminated by three ſpikes of flowers; they are narrow, the middle one is the longeſt, and each flower has its own proper footſtalk. The bracteæ are placed oppoſite, are heart-ſhaped, concave, and reflexed. The flowers are exceeding ſmall; and from ſeeds gathered at the ſame time will be produced both white and purple flowers on different plants.

This plant is exceedingly odoriferous.

and Narrow-leaved Baſil.

6. Narrow-leaved Baſil of Ceylon, or Ceylon Mint. This ſpecies hath a very tender ſtalk, adorned with very narrow, ſpear-ſhaped, ſerrated leaves. The flowers are produced in ſpikes from the ends of the ſtalks; they are ſmall,

whitiſh, and rarely perfect their ſeeds, unleſs they enjoy the benefit of the ſtove.

The ſcent of this plant approaches nearly to that of Aniſe-ſeeds.

Method of propagation.

All theſe plants are eaſily raiſed by ſowing of the ſeeds the beginning of March on a moderate hot-bed, covered with about ſix inches of common rich garden-mould. Let the ſeeds be ſown with an even hand, and ſift over them rather more than a quarter of an inch of the ſame fine mould. Water your beds now-and-then, raiſe your glaſſes as often as you find occaſion, and in a little time your plants will come up. Let them have as much air as the weather will permit, and draw out a ſhare of the plants to make room for the others, thinning them to about three inches diſtance from each other. Harden them by degrees to the air, water them frequently, and by May they will be grown to be good, ſtrong plants. About the middle of this month, let them be removed to the places where they are deſigned to flower. Chuſe a moiſt day or mild evening for the purpoſe, and carefully preſerve a ball of earth to each root. Let the plants be ſhaded and watered until they have taken to their new ſoil; and after this they will require no trouble, except keeping them clean from weeds, and watering them when a dry ſeaſon makes it neceſſary. Thus they will grow to their full perfection, will begin flowering in June or July, and often ripen their ſeeds in September.

The plants drawn at the time of thinning them on the firſt hot-bed, ſhould be ſet in a ſecond, three inches aſunder from each other. They muſt be ſhaded and watered until they have taken root, muſt be hardened to the open air by degrees, and in May ſhould be tranſplanted to the places where they are to remain, like the others.

A proper ſhare of theſe plants ſhould always be ſet in pots, to be placed in court-yards, or in rooms, if their powerful odour ſhould not prove diſagreeable.

A ſhare alſo ſhould be removed into the ſtove, or placed under a glaſs-caſe provided for the purpoſe, the more effectually to enſure good ſeeds; but this extraordinary trouble is the more unneceſſary, as we have them annually imported from Italy and the South of France, and as they may be purchaſed of the London ſeedſmen at an eaſy expence.

The cuttings of any of theſe ſorts will grow; ſo that if any ſingularity appears in any part of a plant, it may be taken off in May, and by being planted in a pot, plunged into a hot-bed, watered, and kept ſhaded in the heat of the day, it will ſoon ſtrike root, will come in blow nearly as ſoon as the other plants, and by placing it in the ſtove the ſeeds will ripen, and the ſingularity in all probability will be continued.

Titles.

1. Common Baſil is titled, *Ocymum foliis ovatis glabris, calycibus ciliatis.* Caſpar Bauhine calls one ſort of it, *Ocymum caryophyllatum majus*; another, *Ocymum caryophyllatum maximum: Ocymum latifolium maculatum, ſ. criſpum*; and another, *Ocymum viride, foliis bullatis.* Cammerarius calls it, ſimply, *Ocymum.* It grows naturally in India and Perſia. Basilicum.

2. Buſh Baſil is, *Ocymum foliis ovatis integerrimis.* In the *Hortus Cliffort.* it is termed, *Ocymum foliis ovatis incanis.* Caſpar Bauhine calls it, *Ocymum minimum.* It grows naturally in Ceylon. Minimum.

3. Indian Baſil is, *Ocymum racemis fecundis lateralibus, caule erecto.* In the *Hortus Cliffort.* it is termed, *Ocymum foliis lanceolato-ovatis, radice perenni.* Rheede calls it, *Cottam.* It grows naturally in India. Frutescens.

4. American Baſil is, *Ocymum foliis ſublanceolatis acuminatis ſubſerratis, racemis terminalibus, caule herbaceo.* It grows naturally in America. Americanum.

5. China Baſil is, *Ocymum foliis ovato-oblongis ſerratis, bracteis cordatis reflexis concavis, ſpicis filiformibus.* Boerhaave calls it, *Ocymum minus Chinenſe odoratiſſimum, flore albo*; Plukenet, *Ocymum Maderaſpatanum fruteſcens, gratiſſimi odoris, flore parvo, caulibus villoſis*; Rumphius, *Baſilicum agreſte*; and Burman, *Mentha Zeylanica ſpicata puſilla, anguſtiſſimo folio dentato.* It grows naturally in Malabar. Tenuiflorum.

6. Narrow-leaved Baſil of Ceylon, or Ceylon Mint, is titled, *Ocymum foliis lineari-lanceolatis ſerratis.* Ray calls it, *Mentha Zeylanica, anguſtiſſimo folio dentato.* It grows naturally in Ceylon. Menthoides.

Claſs and order in the Linnæan Syſtem. The characters.

Ocymum is of the claſs and order *Didynamia Gymnoſpermia*; and the charcters are,

1. Calyx is a very ſhort, monophyllous, permanent, bilabiated perianthium. The upper lip is plane, heart-ſhaped, and bifid. The lower lip is cut into four acute ſegments.

2. Corolla is one petal, ringent, and inverted. The tube is ſhort, and patent. The riſing lip is broadeſt, and cut into four obtuſe, equal ſegments; the other is long, undivided, narrow, and ſerrated.

3. Stamina are four declinated filaments, of which two are rather longer than the others, having half-moon-ſhaped antheræ.

4. Pistillum conſiſts of a germen divided into four parts, a filiforme ſtyle the length and ſituation of the ſtamina, and a bifid ſtigma.

5. Pericarpium. There is none. The ſeeds are encloſed in the calyx.

6. Semina. The ſeeds are oval, and four in number.

I

CHAP.

CHAP. CCXXXVIII.

OENOTHERA, TREE PRIMROSE.

Species. TO this place belong,
1. Common Biennial Tree Primroſe.
2. Small-flowered Tree Primroſe.
3. *Perſicaria*-leaved Tree Primroſe.
4. Mutable Tree Primroſe.

Deſcription of Common Biennial, 1. Common Biennial Tree Primroſe. The root is thick, white, taper, and ſtrikes deep into the ground. The ſtalks are upright, thick, hairy, full of pith, but firm, uſually of a pale-green colour, though ſometimes brown and ſpotted, and grow to be four or five feet high. The radical leaves are numerous, large, oval, ſpear-ſhaped, and ſpread flat on the ground; thoſe on the ſtalks are long, narrow, ſpear-ſhaped, and come out irregularly, ſitting cloſe, without any footſtalks. The flowers are produced from the wings of the leaves more than half the length of the ſtalk, are large, of a bright-yellow colour, and open chiefly in evenings and cloudy weather, which has occaſioned this plant to be called by ſome perſons the Night Primroſe: Theſe flowers appear early in July, and as the ſtalk advances in height freſh ones are produced; ſo that from the ſame plant the ſucceſſion of blow is continued ſome months, and the ſeeds ripen freely for propagation.

Small-flowered, 2. Small-flowered Tree Primroſe. The ſtalks are upright, free from tubercles, though a little hairy, full of pith, and about a yard high. The leaves are oval, ſpear-ſhaped, plane, a little indented on their edges, and for the moſt part bend backwards. The flowers come out from the wings of the leaves almoſt the whole length of the ſtalk; they are ſmall, of a yellow colour, appear at firſt in the end of June, or early in July, and continue in ſucceſſion to the end of ſummer.

Perſicaria-leaved, 3. *Perſicaria*-leaved Tree Primroſe. The ſtalk is upright, rigid, full of pith, and three or four feet high. The leaves are oblong, ſpear-ſhaped, pointed, plane, ſmooth, and of a deep-green colour. The flowers come out from the ſides of the ſtalk almoſt the whole length; they are of a bright-yellow colour, large, very beautiful, appear early in July, and continue in ſucceſſion a long time.

and Mutable-leaved Tree Primroſe. 4. Mutable Tree Primroſe. The ſtalks are upright, firm, woody, and about three feet high. The leaves are ſpear-ſhaped, narrow, ſeſſile, hairy, ſharp-pointed, and ſlightly indented and waved on their edges. The flowers come out, as uſual, from the wings of the leaves along the ſtalks; are rather ſmall, of a pale-yellow colour at firſt, but die to a deep orange-colour; they appear early in July; continue in ſucceſſion a long time, and are ſucceeded by ſlender, hairy capſules, containing the ſeeds.

Culture. The flowers of all theſe ſpecies open chiefly in evenings, which has occaſioned their being indiſcriminately called, by ſome perſons, Evening Primroſes. They are all Biennials, and are propagated by ſowing the ſeeds, ſoon after they are ripe, in the places where they are to remain. Many of them will flower the ſummer following; though ſome of the weakeſt plants will not exhibit their bloom before the ſecond ſummer. They all produce plenty of ſeeds, which, if permitted to ſcatter, will afford plants enough for a ſucceſſion without any trouble; except thinning them where they are too cloſe, and keeping them clean from weeds.

Titles. 1. Common Biennial Tree Primroſe is, *Oenothera foliis ovato-lanceolatis planis, caule muricato-ſubvilloſo.* In the *Hortus Cliffort.* it is termed, *Oenothera foliis ovato-lanceolatis denticulatis, floribus lateralibus in ſummo caulis.* Caſpar Bauhine calls it, *Lyſimachia lutea corniculata*; and Alpinus, *Hyoſcyamus Virginianus.* It is a native of Virginia, from whence it was firſt brought about the year 1614, and is now become common all over Europe. Biennis.

2. Small-flowered Tree Primroſe is, *Oenothera foliis ovato-lanceolatis planis, caule lævi ſubvilloſo.* Zinn calls it, *Oenothera foliis lanceolatis, capſulis ventricoſo-conicis.* It grows naturally in moſt parts of North-America. Parviflora.

3. *Perſicaria*-leaved Tree Primroſe is, *Oenothera foliis lanceolato-oblongis acuminatis planis glabris.* Plumier calls it, *Onagra foliis perſicariæ anguſtioribus, flore magno luteo.* It grows common in America. Octovalvis.

4. Mutable Tree Primroſe is, *Oenothera foliis lanceolatis undulatis.* In the *Hortus Upſal.* it is termed, *Oenothera foliis lineari-lanceolatis dentatis, floribus e medio caule.* Dillenius calls it, *Onagra Bonarienſis villoſa, flore mutabili.* It is a native of Buenos Ayres. Molliſsima.

CHAP. CCXXXIX.

OLDENLANDIA.

THERE are two Annuals of this genus, called,

Species.

1. Corymbous-flowered *Oldenlandia*.
2. Two-flowered *Oldenlandia*.

Deſcription of Corymbous-flowered

1. Corymbous-flowered *Oldenlandia*. The ſtalk is tender, divides into many ſpreading branches, and is about four or five inches high. The leaves are long for ſo low a plant, are narrow, ſpear-ſhaped, and grow oppoſite by pairs on the branches. The flowers come out in roundiſh bunches, which are elevated on footſtalks ariſing from the wings of the leaves; they are of a white colour, appear in June and July, and the ſeeds ripen in July and Auguſt.

and Two-flowered Oldenlandia.

2. Two-flowered *Oldenlandia*. The ſtalk is weak, branching, and ſix or eight inches high. The leaves are ſpear-ſhaped, and grow oppoſite by pairs on the branches. The flowers are produced, two together, on footſtalks ariſing from the wings of the leaves; they are of a white colour, appear in July, and the ſeeds ripen in Auguſt.

Culture.

Theſe ſpecies are propagated by ſowing the ſeeds on a hot-bed early in the ſpring. When the plants are about two or three inches high, each ſhould be ſet in a ſeparate pot, and the pots immediately plunged up to the rims in a bark-bed. The plants muſt be ſhaded, and duly watered, until they have taken root; after which, they muſt have plenty of air, and water muſt be afforded them in greater quantity. With this management they will flower in July and Auguſt, and afford abundance of good ſeeds for a ſucceſſion.

Titles. Corymbosa.

1. The firſt ſpecies is titled, *Oldenlandia pedunculis multifloris, foliis lineari-lanceolatis.* Brown calls it, *Oldenlandia caule tenerrimo, foliis linearibus oppoſitis, ramulis minimis floriferis, pedunculis ramoſis & ſimplicibus*; and Plumier, *Oldenlandia humilis hyſſopifolia.* It grows naturally in Jamaica.

Biflora.

2. The ſecond ſpecies is, *Oldenlandia pedunculis bifloris, petiolo longioribus, foliis lanceolatis.* It grows naturally in India.

Claſs and order in the Linnæan Syſtem.

Oldenlandia is of the claſs and order *Triandria Monogynia*; and the characters are,

The characters.

1. CALYX is a permanent perianthium, ſituated above the germen, divided into four awl-ſhaped ſegments.

2. COROLLA is one petal. The tube is cylindrical; the limb is ſomewhat longer than the calyx, and divided into four acute, patent parts.

3. STAMINA are four ſimple filaments within the tube, having ſmall antheræ.

4. PISTILLUM conſiſts of a roundiſh germen below the calyx, a ſimple ſtyle the length of the ſtamina, and a bifid, obtuſe ſtigma.

5. PERICARPIUM is a roundiſh, didymous capſule, containing two cells.

6. SEMINA. The ſeeds are numerous, and ſmall.

CHAP. CCXL.

ONONIS, REST HARROW, or CHAMMOCK.

THE Annuals of this genus are,

Species.

1. Leaſt Reſt Harrow.
2. Barbadoes Reſt Harrow.
3. Fox-tail Reſt Harrow.
4. Viſcous Reſt Harrow.
5. Bird's-foot Reſt Harrow.
6. African Reſt Harrow.
7. Cape Three-leaved Reſt Harrow.
8. Italian Reſt Harrow.

Deſcription of Leaſt,

1. Leaſt Reſt Harrow. The ſtalks are ſlender, rather more than half a foot high, and ſend forth a ſide-branch or two near the bottom, which ſometimes have prickles, and at other times are ſmooth; for both ſorts will ariſe from the ſame ſeeds. The leaves are ſmall, trifoliate, ſmooth, oval, indented, and grow on pretty long footſtalks. The flowers come out ſingly from the ſides of the branches on very ſhort footſtalks; they are ſmall, yellow, appear in July, and the ſeeds ripen in the autumn.

Barbadoes,

2. Barbadoes Reſt Harrow. The ſtalk is upright, herbaceous, branching, and a foot and a half high. The leaves are trifoliate, roundiſh, ſerrated, and grow on ſhort footſtalks. The flowers come out from the ends of the branches in ſhort ſpikes, are ſmall, of a pale-purple colour, appear in July, and the ſeeds ripen in the autumn.

This is a very hardy Annual, thriving better in the open air than under glaſſes in an hot-bed.

Fox-tail,

3. Fox-tail Reſt Harrow. The ſtalks are upright, branching, and about a foot high. The leaves are undivided, oval, obtuſe, and their edges are ſlightly indented. The flowers come out in leafy ſpikes from the ends of the branches; they are moderately large, of a purple colour, appear in July, and the ſeeds ripen in the autumn.

and Viſcous Reſt Harrow.

4. Viſcous Reſt Harrow. The ſtalks are

tough, branching near the bottom, viſcous, unarmed with ſpines, and grow to be near two feet high. The leaves are ſimple, oval, hairy, and poſſeſſed of a ſticky or viſcous matter. The flowers come out from the ſides of the branches almoſt their whole length; they grow ſingly on footſtalks, are of a pale-yellow colour, having ſome browniſh ſtripes on the back, appear in July, and the ſeeds ripen in the autumn.

Deſcription of Bird's foot

5. Bird's-foot Reſt Harrow. The ſtalks grow to about nine inches high, and ſend forth a ſide-branch or two near the bottom. The leaves are trifoliate, ſmall, and grow on ſhort footſtalks. The flowers come out from the ſides of the branches, two growing together, on footſtalks; they are ſmall, yellow, appear in July, and the ſeeds ripen in the autumn.

African,

6. African Reſt Harrow. The ſtalks are ſlender, herbaceous, hairy, and about a foot high. The leaves are oblong, hairy, and of a light-green colour. The flowers terminate the branches in cloſe ſpikes, are yellow, appear in July and Auguſt, and are ſucceeded by nutant pods, containing ripe ſeeds in the autumn.

Cape Three-leaved,

7. Cape Three-leaved Reſt Harrow. The ſtalks are herbaceous, branching, and a foot and a half high. The leaves are trifoliate, and nearly round. The flowers come out in looſe ſpikes from the ends of the branches, and are of a yellow colour faintly ſtriped with brown; they appear in July, and the ſeeds ripen in the autumn.

and Italian Reſt Harrow.

8. Italian Reſt Harrow. The ſtalks are ſmall, viſcous, diffuſe, clammy, and lie on the ground. The leaves are trifoliate, hairy, roundiſh, and have their edges indented. The flowers come out ſingly from the ſides of the branches on ſlender footſtalks, and are of a purpliſh colour, having a mixture of white; they appear in July and Auguſt, and the ſeeds ripen in the autumn.

There is a variety of this ſpecies with red-and-white flowers.

Culture.

Method of propagation.

All theſe ſpecies are eaſily raiſed by ſowing the ſeeds in March, in beds of light earth made fine. When the plants come up nothing more need be done than to thin them where they are too cloſe, keep them clean from weeds, and water them in dry weather. Thus the ſtrongeſt of them will flower by the end of July, and the others will ſucceed them in order; and from plants of the ſame bed there will often be a ſucceſſion of bloom until the end of autumn, before which time good ſeeds from the firſt-blown flowers may be collected to continue the ſort.

When theſe plants are deſired to be in the different parts of the pleaſure-garden, the beſt way will be to mark the places where they are to remain, to dig the ground well, and ſow a few ſeeds in each of the reſpective ſpots; for they do not bear tranſplanting well; and though they will grow, yet they hardly ever aſſume ſo healthy an appearance as plants raiſed without being diſturbed from ſeeds.

Titles.

Minutissima.

1. Leaſt Reſt Harrow is titled, *Ononis floribus ſubſeſſilibus lateralibus, foliis ternatis glabris, ſtipulis ſetaceis, calycibus ariſtis corollâ longioribus.* Van Royen calls it, *Ononis floribus lateralibus ſeſſilibus ſolitariis, petiolis longiſſimis*; Sauvages, *Ononis trifolia, calycibus ad axillas ſeſſilibus erectis & ſtipulis longas ſetas exerentibus*; Columna, *Ononis lutea ſylveſtris minima*; Caſpar Bauhine, *Ononis ſpinoſa lutea minor*; and Barrelier, *Ononis lutea montana non ſpinoſa minima.* It grows naturally in Italy, Auſtria, Helvetia, and the South of France.

Mitissima.

2. Barbadoes Reſt Harrow is, *Ononis floribus ſeſſilibus ſpicatis, bracteis ſtipularibus ovatis ventricoſis ſcarioſis imbricatis.* Van Royen calls it, *Ononis ſtipulis floralibus ovatis membranaceis integerrimis*; Dillenius, *Ononis alopecuroides mitis annua purpuraſcens*; and Moriſon, *Ononis purpurea ſpicata erecta annua latifoliâ ſiliquis rectis lentiformibus.* It grows naturally in Barbadoes and Luſitania.

Alopecuroides.

3. Fox-tail Reſt Harrow is, *Ononis ſpicis folioſis, foliis ſimplicibus ovatis obtuſis, ſtipulis dilatatis.* In the *Hortus Cliffort.* it is termed, *Ononis floribus ſpicatis.* Tournefort calls it, *Ononis Sicula alopecuroides*; Ray, *Ononis ſpicata ſ. alopecuroides Luſitanica non ſpinoſa*; and Boerhaave, *Ononis purpurea ſpicata alopecuroides major.* It grows naturally in Sicily, Portugal, and Spain.

Viscosa.

4. Viſcous Reſt Harrow is, *Ononis pedunculis unifloris ariſtatis, foliis ſimplicibus infimis ternatis.* Sauvages calls it, *Ononis pedunculis unifloris filo terminatis, foliis ternatis ſimplicibuſque*; Barrelier, *Ononis lutea viſcoſa latifolia minor, flore pallido*; Magnol, *Ononis viſcoſa, ſpinis carens lutea*; and Tournefort, *Ononis annua erectior latifolia glutinoſa Luſitanica.* It grows naturally in France, Portugal, and Spain.

Ornithopodioides.

5. Bird's-foot Reſt Harrow is, *Ononis pedunculis bifloris ariſtatis, leguminibus cernuis.* Boerhaave calls it, *Ononis ſiliquis ornithopodii*; and Tournefort, *Fœnum Græcum Siculum, ſiliquis ornithopodii.* It is a native of Sicily.

Cernua.

6. African Reſt Harrow is, *Ononis ſpicis ſeſſilibus, leguminibus nutantibus linearibus piloſis.* Commeline calls it, *Lotus Africana annua hirſuta, floribus luteis.* It grows naturally at the Cape of Good Hope.

Capensis.

7. Cape Three-leaved Reſt Harrow is, *Ononis racemis pedunculatis longis, foliis ternatis ſuborbiculatis.* It grows common at the Cape.

Reclinata.

8. Italian Reſt Harrow is, *Ononis pedunculis unifloris muticis, fructibus cernuis, foliis ternatis ſubrotundis crenatis.* Moriſon calls it, *Ononis puſilla hirſuta, flore ex albo & rubro colore mixto*; Barrelier, *Ononis purpurea non ſpinoſa minor*; and Tournefort, *Ononis annua pumila, flore purpuraſcente.* It grows naturally in Italy, France, and Spain.

CHAP.

CHAP. CCXLI.

ONOPORDUM, WOOLLY THISTLE.

THERE are four ſpecies of this genus, called,

Species.

1. Common Woolly Thiſtle, or Cotton Thiſtle.
2. Illyrian Cotton Thiſtle.
3. Tall Portugal Cotton Thiſtle.
4. Stalkleſs Cotton Thiſtle.

Common Woolly Thiſtle deſcribed.

1. Common Woolly Thiſtle, or Cotton Thiſtle. The radical leaves are large, oval, oblong, downy, ſinuated on the edges, prickly, and ſpread themſelves on the ground. The ſtalk is round, ſtriated, firm, branching, often five or ſix feet high, and is adorned with leaves like the radical ones, having indented, prickly membranes, running from one to the other, down the ſides of the ſtalk. The flowers come out from the ends of the branches in large, prickly cups; they are of a beautiful-purple colour, appear in June and July, and the ſeeds ripen in Auguſt.

Variety.

There is a variety of it with white flowers.

Deſcription of Illyrian,

2. Illyrian Cotton Thiſtle. The ſtalk is upright, firm, branching, and often ſix or eight feet high. The leaves are very long, narrow, ſpear-ſhaped, pinnatifid, and every ſegment is terminated by a ſharp ſpine. The flowers come out from the ends of the branches in prickly cups, are of a purple colour, appear in July and Auguſt, and the ſeeds ripen in Auguſt and September.

Tall Portugal,

3. Tall Portugal Cotton Thiſtle. The ſtalk is robuſt, upright, branching, and often ten feet high. The leaves are very large, downy, ſinuated, prickly, and grow alternately on the branches. The flowers come out from the ends of the branches in imbricated cups, are large and of a purple colour, appear in July and Auguſt, and the ſeeds ripen in September.

Stalkleſs Cotton Thiſtle.

4. Stalkleſs Cotton Thiſtle. The leaves are oval, oblong, downy, and ſpread themſelves on the ground. The plant being poſſeſſed of no ſtalk, or at moſt a very ſhort one, the flowers come out from among the leaves, ſitting cloſe, or appearing to ſit cloſe, to the crown of the root; they are of a white colour, appear in July, and the ſeeds ripen in Auguſt.

Culture.

All theſe ſpecies are Biennials, and are propagated by ſowing the ſeeds in the autumn, ſoon after they are ripe, or the ſpring following, in the places where they are to remain; and after the plants come up, they will call for no trouble, except thinning them to proper diſtances, and keeping them clean from weeds. Nevertheleſs, in order to have the firſt three ſpecies large and ſtately, the ground, which ſhould be a deep fat earth, muſt be double-dug previous to the ſowing, and in the autumn ſhould be again dug between the plants, care being taken not to injure their roots. Thus they will ariſe with great ſtrength the ſpring following, and, when they come into flower in ſummer, will be eight or ten feet high.

Titles.

1. The firſt ſpecies is titled, *Onopordum calycibus ſquarroſis, ſpinis ſubulatis, foliis ovato-oblongis ſinuatis.* In the *Hortus Cliffort.* it is termed, *Onopordum foliis decurrentibus margine ſpinoſis.* Caſpar Bauhine calls it, *Spina alba tomentoſa latifolia ſylveſtris*; Dodonæus, *Acanthium*; Ray, *Carduus tomentoſus, acanthium dictus, vulgaris*; Gerard, *Acanthium album*; and Parkinſon, *Acanthium vulgare.* It grows naturally in common fields, by way-ſides, new-thrown-up banks, &c. in England and moſt countries of Europe. Acanthium.

2. The ſecond ſpecies is titled, *Onopordum calycibus ſquarroſis, ſpinis lanceolatis, foliis lanceolatis pinnatifidis.* Sauvages calls it, *Onopordum foliis decurrentibus ligulatis pinnatifidis*; Caſpar Bauhine, *Spina tomentoſa altera ſpinoſior*; John Bauhine, *Carduus, quibuſdam dictus acanthium Illyricum*; and Lobel, *Acanthium Illyricum.* It grows naturally in the ſouthern countries of Europe. Illyricum.

3. The third ſpecies is, *Onopordum calycibus imbricatis.* Tournefort calls it, *Carduus tomentoſus, acanthi folio, altiſſimus Luſitanicus*; Plukenet, *Carduus tomentoſus, acanthium dictus, Arabicus*; Barrelier, *Carduus tomentoſus, acanthi folio, altiſſimus Luſitanicus*; and Moriſon, *Acanthium altiſſimum Luſitanicum.* It grows naturally in Portugal and the ſouth of France. Arabicum.

4. The fourth ſpecies is titled, *Onopordum ſubacaule.* Haller calls it, *Onopordum acaulon fermè, flore albicante.* It is not certainly known where this ſpecies grows naturally. Acaulon.

Claſs and order in the Linnæan Syſtem.

Onopordum is of the claſs and order *Syngeneſia Polygamia Æqualis*; and the characters are,

The characters.

1. CALYX. The general calyx is roundiſh, ventricoſe, and imbricated with numerous, prominent, prickly ſcales.

2. COROLLA. The general flower is tubular, and uniform. The florets have each one funnel-ſhaped petal. The tube is very narrow. The limb is erect, ſwelling, and divided into five equal ſegments.

3. STAMINA are five very ſhort, capillary filaments, having a cylindrical, tubular anthera the length of the corolla, and indented in five points.

4. PISTILLUM conſiſts of an oval germen, a filiforme ſtyle longer than the ſtamina, and a coronated ſtigma.

5. PERICARPIUM. There is none.

6. SEMEN. The ſeed is ſingle, and crowned with hairy down.

CHAP. CCXLII.

ORIGANUM, MARJORAM.

THERE is only one Annual of this genus, which is called Sweet Marjoram.

It is a well-known plant, and uſually raiſed in the flower-garden for the ſake of noſegays, as it is generally allowed to have a more heightened fragrance than any of the other ſorts of Marjoram.

The plant deſcribed. It grows to rather more than a foot high. The leaves are oval, obtuſe, ſoft, hoary, and finely ſcented. The flowers are produced in roundiſh, compact, downy ſpikes; they are of a white colour, appear in July, and in favourable ſeaſons ripen their ſeeds in the autumn.

Culture. This plant is propagated by ſowing the ſeeds, about the twentieth of March, on a bed of light earth, ſifting over them about a quarter of an inch of fine mould. If dry weather ſhould happen, the beds muſt be watered every third evening; and in a little time the plants will come up. When they are about an inch and a half high, they ſhould be planted out in the places where they are deſigned to flower. They will come into blow in July, but do not always perfect their ſeeds; which is a matter of no very great concern, as we have the ſeeds annually imported from Italy and the South of France, and may purchaſe them of the ſeedſmen at an eaſy expence.

Titles. Sweet Marjoram is titled, *Origanum foliis ovalibus obtuſis, ſpicis ſubrotundis compactis pubeſcentibus.* Caſpar Bauhine calls it, *Marjorana vulgaris*; Lobel, *Amaracus vulgatior.* There is a variety of it called, *Marjorana tenuifolia.* This Moriſon terms, *Marjorana hortenſis odorata perennis.* It is not certain in what parts this ſpecies naturally grows.

Marjo= rana.

* * *

CHAP. CCXLIII.

ORNITHOPUS, BIRD's FOOT.

THERE are three Annuals of this genus, called,

Species.
1. Common Bird's Foot.
2. Compreſſed Bird's Foot.
3. Trifoliate Bird's Foot.

Common Bird's Foot deſcribed. 1. Common Bird's Foot. The ſtalks are ſlender, hairy, ſix or eight inches long, and lie on the ground. The leaves are pinnated, and long; the pinnæ are numerous on each ſide the midrib, are ſmall, oval, and terminated by an odd one. The flowers are produced in ſmall cluſters from the ends and ſides of the ſtalks; they are very ſmall, of a yellow colour, appear in June and July, and are ſucceeded by long, jointed, incurved pods, containing ripe ſeeds in Auguſt.

Varieties. There is a variety of this ſpecies of larger growth; another with a knobbed, tuberculated root; a third with red flowers; and a fourth with whitiſh flowers.

Deſcription of Compreſſed 2. Compreſſed Bird's Foot. The ſtalks are ſlender, ſtraight, and eight or ten inches long. The leaves are pinnated, and long; the pinnæ are eight or ten pair in number, ſmall, oval, and terminated by an odd one. The flowers come out, two or three together, from the tops of the ſtalks; they are ſmall, of a yellow colour, appear in June and July, and are ſucceeded by compreſſed, rough, crooked pods, containing ripe ſeeds in Auguſt.

and Trifoliate Bird's Foot. 3. Trifoliate Bird's Foot. The ſtalks are numerous, ſmooth, branching, and a foot and a half high. The leaves are ſometimes ſimple; but, in general, they conſiſt of three oval folioles, ſitting cloſe, and having two ſmall appendages at their baſe. The flowers are produced from the ends and ſides of the branches on ſlender footſtalks, are of a yellow colour, appear in June and July, and are ſucceeded by long, taper, jointed, incurved pods, containing ripe ſeeds in Auguſt.

Culture. Theſe ſpecies are propagated by ſowing the ſeeds in the ſpring, in any ſoil or ſituation. When they come up, they will require no trouble, except thinning them where they are too cloſe, and keeping them clean from weeds. They are introduced into the flower-garden to cauſe variety, by their pods, with Snails and Caterpillars; ſo that whoever is fond of ſuch kind of plants may, by different ſowings at proper intervals, exhibit them in perfection from June until the end of October.

Titles. 1. The firſt ſpecies is titled, *Ornithopus foliis pinnatis, leguminibus ſubarcuatis.* In the *Hortus Cliffort.* it is termed, *Ornithopus foliis pinnatis, articulis leguminum ſubrotundis lævibus.* Caſpar Bauhine calls it, *Ornithopodium minus*; alſo, *Ornithopodium majus*; alſo, *Ornithopodium radice tuberculis nodoſâ*; and Dalechamp, *Ornithopodium perpuſillum.* It grows naturally in ſandy, gravelly places in England, France, Spain, and Italy.

Perpusil- =lus.

2. The ſecond ſpecies is, *Ornithopus foliis pinnatis, leguminibus compreſſis rugoſis.* Caſpar Bauhine calls it, *Ornithopodio affinis hirſuta ſcorpioides*; and Dalechamp, *Scorpioides leguminoſa.* It grows naturally in Italy and Sicily.

Compressus.

Scorpioides.

3. The third ſpecies is, *Ornithopus foliis ternatis ſubſeſſilibus, impari maximo.* Caſpar Bauhine calls it, *Telephium Dioſcoridis ſ. ſcorpioides*; and Dalechamp, *Scorpioides Matthioli.* It grows naturally in France, Italy, and Spain, among the corn.

Claſs and order in the Linnæan Syſtem. The characters.

Ornithopus is of the claſs and order *Diadelphia Decandria*; and the characters are,

1. Calyx is a monophyllous, tubular, permanent perianthium, having five nearly equal indentures at the top.

2. Corolla is papilionaceous.

The vexillum is obcordated, and whole.

The alæ are oval, ſtraight, and almoſt as large as the vexillum.

The carina is ſmall and compreſſed.

3. Stamina are diadelphous filaments, with ſimple antheræ.

4. Pistillum conſiſts of a linear germen, a ſetaceous riſing ſtyle, and a terminal ſtigma.

5. Pericarpium is an awl-ſhaped, taper, jointed, arched pod.

6. Semen. The ſeed is ſingle, and roundiſh.

CHAP CCXLIV.

ORYZA, RICE.

The plant deſcribed.

THERE is only one ſpecies of this genus, called Rice.

The radical leaves are near two feet in length, an inch or more in breadth, ſmooth, and of a light-green colour. The ſtalk is round, hollow, jointed, four feet high, and adorned with long, narrow leaves, growing ſingly at the joints, and ſurrounding it with their baſe. The flowers come out in large panicles from the tops of the ſtalks, having purple antheræ; they appear in July, and the ſeeds ripen in the autumn.

Culture.

This ſpecies is cultivated in great abundance for food in moſt parts of the Eaſt; and a quantity of it is ſent to the different countries of the world, where its general culture is not practicable. We experience its uſes for puddings; but attempt its culture no otherwiſe than by raiſing a few plants for curioſity.

In order, therefore, to raiſe Rice, let the ſeeds be ſown early in the ſpring on a hot-bed. When the plants come up, they muſt be duly watered, and have as much air as the weather will permit; and when they are about four inches high, each ſhould be ſet in a ſeparate pot, filled with rich mould from a well-managed kitchen-garden. They muſt have a plentiful watering at the time of removal, muſt be plunged up to the rims in a hot-bed, and be well ſhaded until they have taken root. When this is effected, they ſhould have more air, and water ſhould be afforded them every morning and evening; otherwiſe they will ſucceed but ill in England; for Rice is a native of moiſt places, and grows naturally on bogs and marſhy ground in the warmer parts of the world. As the plants encreaſe in height, the glaſſes ſhould be raiſed, and in very hot weather may be wholly taken off; but they ſhould always be replaced in rainy, damp weather. With this management, and by duly obſerving the ſtated times of watering, they will afford good Rice in the autumn.

Titles. Sativa.

There being no other ſpecies of this genus, it is named, ſimply, *Oryza.* It is ſuppoſed to grow naturally in Æthiopia.

Claſs and order in the Linnæan Syſtem. The characters.

Oryza is of the claſs and order *Hexandria Digynia*; and the characters are,

1. Calyx is a glume compoſed of two very ſmall, acuminated, nearly equal valves, containing one flower.

2. Corolla is two ariſtated, navicular, concave, compreſſed valves, the larger being pentangular. The nectarium is ſituated on the ſide of the germen, is ſmall, plane, and compoſed of two leaves, which are narrow at the baſe, and truncated at the top.

3. Stamina are ſix capillary filaments the length of the corolla, having antheræ which are bifid at the baſe.

4. Pistillum conſiſts of a turbinated germen, and two capillary, reflexed ſtyles, with clavated, plumoſe ſtigmas.

5. Pericarpium. There is none. The corolla grows to the ſeed, and ſerves the office of a pericarpium.

6. Semen. The ſeed is ſingle, large, oblong, obtuſe, compreſſed, and marked with two lines on each ſide.

CHAP. CCXLV.

OTHONNA.

TO this place belongs one ſpecies of this genus, called Annual *Othonna*.

The plant deſcribed. The ſtalk is herbaceous, low, ſlender, weak, and ramoſe. The leaves are pinnated, and beautifully compoſed of ſeveral elegant folioles, which are ſmall, narrow, and a little indented on their edges. The flowers come out ſingly from the ends and ſides of the branches on footſtalk; they are of a yellow colour, appear in July and Auguſt, and are ſucceeded by oblong ſeeds which ripen in the autumn.

Culture. It is raiſed by ſowing the ſeeds on a ſlight hot-bed in the ſpring. In May they will be fit to remove; when, on a moiſt day, they ſhould be taken up, two or three together, with a ball of earth to the roots, and ſet in the places where they are deſigned to flower.

Titles. Tagetes. This ſpecies is titled, *Othonna foliis linearibus pinnatis ſubdentatis, caule herbaceo.* Breynius calls it, *Tagetes minimus tenuiter diviſo folio*; and Ray, *Chryſanthemum Africanum pumilum ramoſum, foliis tenuiſſimis.* It grows naturally at the Cape of Good Hope.

Claſs and order in the Linnæan Syſtem. The characters. *Othonna* is of the claſs and order *Syngeneſia Polygamia Neceſſaria*; and the characters are,

1. Calyx is ſimple, monophyllous, obtuſe at the baſe, acute, equal, and divided into eight or twelve ſegments.

2. Corolla is radiated. The hermaphrodite florets are many in the diſk; the females in the radius anſwer to the number of the ſegments of the calyx, and are uſually eight. Each hermaphrodite floret is tubular, ſcarcely longer than the calyx, and indented at the top in five parts. The female florets are tongue-ſhaped, reflexed, longer than the calyx, and indented at the extremity in three parts.

3. Stamina of the hermaphrodites are five very ſhort, capillary filaments, having a cylindrical, tubular anthera, the length of the floret.

4. Piſtillum of the hermaphrodites conſiſts of an oblong germen, a filiforme ſtyle rather longer than the ſtamina, and a ſimple, bifid ſtigma. In the females, it conſiſts of an oblong germen, a filiforme ſtyle the length of the hermaphrodites, and a large, reflexed ſtigma.

5. Pericarpium. There is none. The ſeeds are contained in the permanent calyx.

6. Semen. The hermaphrodites have none. In the females, the ſeed is ſingle, oblong, naked, or elſe crowned with down.

The receptacle is naked, and punctated.

CHAP. CCXLVI.

OXALIS, WOOD SORREL.

THERE are two Annuals of this genus, called,

Species.

1. Trailing Italian Yellow Wood Sorrel.
2. Upright American Yellow Wood Sorrel.

Deſcription of Trailing Italian 1. Trailing Italian Yellow Wood Sorrel. The root is long, ſlender, and fibrous. The ſtalks are ſlender, divide into numerous branches, which ſpread themſelves every way, and trail on the ground. The leaves are trifoliate, and grow on long, ſlender footſtalks: The folioles are heart-ſhaped, and have a deep indenture at the top. The flowers are produced, in kind of umbels, from the ends and ſides of the branches, growing on longiſh footſtalks; they are of a yellow colour, appear in June and July, and are ſucceeded by five-cornered capſules, which burſt longitudinally at the angles, and diſcharge the ſeeds when ripe with great violence.

and Upright American Yellow Wood Sorrel. 2. Upright American Yellow Wood Sorrel. The ſtalk is upright, branching, and near a foot high. The leaves are trifoliate, cordated, and grow on very long footſtalks. The flowers are produced in kind of umbels, growing on long, ſlender footſtalks, which ſtand erect; they are of a yellow colour, appear in June and July, and are ſucceeded by the like kind of capſules with the former ſpecies.

Culture. Theſe plants are propagated by ſowing the ſeeds as ſoon as they are ripe, or in the ſpring. They will grow in any ſoil or ſituation, but thrive beſt in an open expoſure. When they come up, they will require no trouble, except keeping them clean from weeds; and, if the ſeeds are permitted to ſcatter, they will, when ripe, be diſcharged with an elaſtic force to a conſiderable diſtance, and will afford greater plenty of plants for a ſucceſſion, perhaps, than you could wiſh for.

Titles. 1. Trailing Italian Yellow Wood Sorrel is titled, *Oxalis caule ramoſo diffuſo, pedunculis umbelliferis.* Cluſius calls it, *Oxys flavo flore*; Caſpar Bauhine, *Trifolium acetoſum corniculatum*; and Moriſon, *Trifolium luteum minus repens, etiam procumbens.* It grows naturally in Italy and Sicily. Corniculata.

2. Upright American Yellow Wood Sorrel is, *Oxalis caule ramoſo erecto, pedunculis umbelliferis.* Tournefort calls it, *Oxys Americana erectior*; and Moriſon, *Trifolium acetoſum corniculatum luteum majus rectum Indicum ſ. Virginicum.* It grows naturally in Virginia. Stricta.

CHAP. CCXLVII.

PANICUM, PANIC-GRASS.

Species.

OF this genus are,
1. Green Panic-graſs.
2. Verticillate Panic-graſs.
3. Looſe Panic-graſs, or *Crus Galli.*
4. *Crus Corvi.*
5. Cock's Foot Panic-graſs.
6. Italian Panic.
7. Glaucous Panic.
8. Small Indian Panic.
9. Millet.

Deſcription of Green,

1. Green Panic-graſs. The root is compoſed of a multitude of ſlender fibres. The leaves are narrow, pointed, graſſy, and ſheath the ſtalk with their baſe. The ſtalks are about four or five inches long, and ſpread in different directions. The flowers come out from the tops of the ſtalks in ſmooth, ſhort, ſimple, taper ſpikes; they appear in July and Auguſt, and the ſeeds ripen ſoon after.

Verticillate,

2. Verticillate Panic-graſs. This plant has numerous, ſlender fibres cluſtered together. The ſtalks are ſmooth, diffuſe, and two feet long. The leaves are narrow, graſſy-pointed, and embrace the ſtalk with their baſe. The flowers are produced in long, rough, verticillate ſpikes from the ends of the ſtalks; they are of a green colour, appear in July and Auguſt, and the ſeeds ripen ſoon after.

and Looſe Panic-graſs.

3. Looſe Panic-graſs, or *Crus Galli.* The root is a cluſter of capillary fibres, growing together in the manner of wheat. The ſtalk is round, jointed, hollow, and two or three feet high. The leaves are long, moderately broad, and ſheath the ſtalk with their baſe. The flowers come out in looſe, divided ſpikes from the tops of the ſtalks; they appear in July and Auguſt, and are ſoon followed by ripe ſeeds.

Crus Corvi,

4. *Crus Corvi.* The ſtalk is ſlender, jointed, ſmooth, hollow, and hardly a foot and a half high. The leaves reſemble thoſe of Wheat, but are every-way ſmaller, and embrace the ſtalks with their baſe. The flowers come out in ſpikes from the tops of the ſtalks, being arranged alternately along one ſide; they appear in July and Auguſt, and the ſeeds ripen ſoon after.

and Cock's Foot Panic-graſs deſcribed.

5. Cock's Foot Panic-graſs. The root is compoſed of many long, ſlender fibres, which ſtrike deep into the ground. The ſtalks are rough, hairy, jointed, and a yard high. The leaves are large, broad, and like unto thoſe of Corn. The flowers are formed into four or five ſpikes at the top of each ſtalk, which ſpread far aſunder at the top, but join at their baſe; they are of a bright-purple colour, appear in Auguſt, and the ſeeds ripen in September.

Culture.

Theſe five ſorts are all natives of England, and are never propagated in gardens; nevertheleſs, if a perſon chuſes to have a few plants, to be ready for obſervation, they may be raiſed by ſowing the ſeeds in the autumn, ſoon after they are ripe, or the ſpring; though the former is preferable, as the plants will be brought to flower earlier the ſummer following.

Deſcription of Italian Panic.

6. Italian Panic. This riſes with a thick, hollow, jointed ſtalk, like a reed, to the height of four or five feet. The leaves are broad, long, pointed, and bend downward at about half their length. The flowers come out from the tops of the ſtalks in thick, compound ſpikes, which are more than a foot in length. The ſpikes ſeparately are roundiſh, and cluſtered together ſo as to form a grand appearance; they come out in July, and are ſucceeded by large ſeeds or grain, which is uſed as corn in Italy, Germany, and other parts of Europe, and affords a very good bread.

Culture.

There are ſeveral varieties of this ſpecies, as there are of our Wheat and Barley; and they are raiſed in Italy, Germany, and other parts of the world to afford corn for food: With us it is altogether unneceſſary, as our fields are ſo well ſtored with Wheat, Barley, &c. Thoſe, however, who are deſirous of making experiments, may ſow the ſeeds thinly by broad-caſt, about the end of March; but as the ſtalks grow large, when the plants come up, they ſhould be hoed to proper diſtances, according to their ſize; ſome varieties growing to be four or five feet high, others ſeldom more than a yard; otherwiſe they will draw weak, and produce leſs plenty of grain.

They may be alſo raiſed by drill-ſowing. The ground ſhould be well ploughed, and made fine with good harrowing, and let the drills be a foot and a half aſunder. When the plants come up, they muſt be thinned where they are too cloſe in the drill, and the ground kept clean by good hoeing at firſt; but they will ſoon get high enough to keep down the weeds; and ſome of the ſorts will ripen, and be fit to cut early in Auguſt, others not before September.

Glaucous,

8. Glaucous Panic. There are ſeveral varieties of this ſpecies, but the moſt ſhowy kind goes by the name of Tall Indian Panic. The ſtalk is round, ſmooth, hollow, jointed, and in good land often eight or nine feet high. The leaves are a yard or more in length, broad, pointed, ſmooth on the upper ſide, and whitiſh underneath. The flowers come out from the ends and ſides of the ſtalks in long, taper, ſoft, looſe ſpikes; they appear in July and Auguſt, and are ſucceeded by longiſh ſeeds, which in India afford the inhabitants a ſubſtantial bread, but which ſeldom come to maturity in our gardens.

and Small Indian Panic deſcribed.

9. Small Indian Panic. This is a low ſpecies of this genus, having a ſmooth, taper ſtalk, about five or ſix inches long. The leaves are narrow, pointed, ſmooth, tinged, and often finely variegated with purple. The flowers come out from the tops of the ſtalks in ſimple, oval, taper ſpikes; they are arranged on one ſide, and the ends of the ſpikes hang drooping, the top of the ſtalk being too weak to ſupport them in an upright poſition; they appear in Auguſt, but the ſeeds very ſeldom ripen in England.

Culture.

There are ſeveral other Indian ſpecies of Panic, moſt of which afford wheat or grain for bread. They are all, together with the two former kinds, and the varieties that belong to them, raiſed by ſowing the ſeeds, which muſt be procured from India, in the end of March, in beds of the richeſt mould, in warm, well-ſheltered places. They muſt be ſown in drills at diſtances in proportion to their height, and, as they grow, muſt be ſtaked, to prevent their being blown down by the wind: They may be brought to flower in Auguſt, and ſome of the kinds earlier, but I never knew them ſucceeded by ripe ſeeds in England.

Deſcription of Millet.

9. Millet. The ſtalks are round, hollow, channelled, jointed, and three or four feet high. The leaves are long, pointed, ſtriated, hairy, downy near the bottom, and embrace the ſtalk with their baſe. The flowers come out in looſe panicles from the tops of the ſtalks; they appear in July, and are ſucceeded by ſmall, round ſeeds, which ripen in Auguſt or September.

Varieties.

The varieties of this ſpecies are chiefly diſtinguiſhed by the colour of the ſeeds, ſome being of a yellowiſh-red colour, others white, others black, &c. and from this ſmall difference, they have been reckoned as a diſtinct ſpecies by old Botaniſts, and titled accordingly.

This ſpecies, though a native of India, ripens its ſeeds well in England; and is cultivated in moſt parts of Europe for their ſake, as they afford a uſeful flour for puddings, cakes, or bread, and are admirable for the feeding of poultry.

Culture.

In order to raiſe a general crop of theſe plants for thoſe purpoſes, the ground ſhould have lain fallow the preceding ſummer, and for want of that, in the winter ſhould be made mellow and rich with the fineſt rotten dung. It muſt be well ploughed, the clods broken, and the ſurface made ſmooth with good harrowing; then, in the latter end of March, the ſeeds ſhould be thinly ſown by broad-caſt, and lightly harrowed in. When the plants are two or three inches high, they ſhould be thinned by hoeing (as is practiſed for Turneps), in rich ſoils, to a foot or a foot and a half diſtance from each other. At this time the weeds muſt be deſtroyed; and the more effectually to accompliſh this, dry weather ſhould be made choice of for the buſineſs. One hoeing is generally ſufficient to deſtroy the weeds, for the ſtalks will ſoon divide, cover the ground, and choak them as they ariſe; nevertheleſs, if the ground ſhould be very prolific of ſtrong weeds, a repetition of the hoeing may be found neceſſary for their entire deſtruction. This is all the trouble the plants will require until the ſeeds are ripe. When the ſeeds begin to ripen, which will be early in Auguſt, they muſt be ſecured from the birds, otherwiſe they will ſoon have the greateſt ſhare of them. When they are ripe, the heads ſhould be cut off under the upper-joint, and they ſhould be laid in ſmall heaps in a dry, airy place, full upon the ſun. Having lain in this place with frequent turnings, about a week or ten days, the ſeeds ſhould be threſhed out and well cleaned; they ſhould be next ſpread upon a cloth, and placed every day in the ſun, until they are perfectly dry, and then put into ſacks to be ready for uſe.

Titles.

1. Green Panic-graſs is titled, *Panicum ſpicâ tereti, involucellis bifloris faſciculato-piloſis, ſeminibus nervoſis.* Caſpar Bauhine calls it, *Gramen paniceum, ſ. Panicum ſylveſtre ſpicâ ſimplici.* It grows common in England, and moſt of the ſouthern parts of Europe. Viride.

2. Verticillate Panic-graſs is, *Panicum ſpicâ verticillatâ, racemulis quaternis, involucellis unifloris biſetis, culmis diffuſis.* Caſpar Bauhine calls it, *Gramen paniceum, ſpicâ aſperâ.* It grows naturally in tillage-fields in England, and moſt of the ſouthern parts of Europe; alſo in the Eaſt. Verticil=latum.

3. Looſe Panic-graſs, or *Crus Galli*, is, *Panicum ſpicis alternis conjugatiſque, ſpiculis ſubdiviſis, glumis ariſtatis hiſpidis, rachi quinquangulari.* Caſpar Bauhine calls it, *Gramen paniceum, ſpicâ diviſâ*; John Bauhine, *Dens caninus ſecundus*; Gerard, *Panicum vulgare*; and Parkinſon, *Panicum ſylveſtre herbariorum.* It grows naturally in tillage-fields in England, and moſt parts of Europe; alſo in Virginia. Crus Galli.

4. *Crus Corvi* is, *Panicum ſpicis alternis ſecundis ſpiculis ſubdiviſis, glumis ſubariſtatis hiſpidis, rachi trigoni.* It grows naturally in both the Indies. Crus Corvi.

5. Cock's Foot Panic-graſs is, *Panicum ſpicis digitatis baſi interiore nodoſis, floſculis geminis muticis vaginis foliorum punctatis.* Van Royen calls it, *Panicum ſpicis alternis oppoſitiſque linearibus patentiſſimis muticis, floſculis alternatim binis: altero pedunculato*; Caſpar Bauhine, *Gramen dactylon latiore folio*; Gerard, *Iſchæmon vulgare*; and Parkinſon, *Iſchæmon ſylveſtre latiore folio.* It grows naturally in England, Germany, and the South of Europe; alſo in Aſia and America. Sanguin=nale.

6. Italian Panic is, *Panicum ſpicâ compoſitâ, ſpiculis glomeratis ſetis immixtis, pedunculis hirſutis.* In the *Hortus Upſal.* it is termed, *Panicum ſpicâ compoſitâ, ariſtis floſculo brevioribus.* Caſpar Bauhine calls it, *Panicum Italicum ſ. paniculâ majore*; and Rumphius, *Panicum.* It is a native of both the Eaſt and Weſt Indies. Italicum.

7. Glaucous Panic is, *Panicum ſpicâ tereti, involucellis bifloris faſciculato-ſetoſis, ſeminibus undulato-rugoſis.* Gronovius calls it, *Panicum ſpicâ ſimplici, ariſtis aggregatis floſculo ſubjectis.* It grows naturally in both the Indies, and in Italy. Glaucum.

8. Small Indian Panic is, *Panicum ſpicis alternis ſecundis muticis ovatis ſcabris, rachi teretiuſculâ.* Plukenet calls it, *Gramen paniceum minus, ſpicâ diviſâ, inſulæ Barbadenſis*; Sloane, *Gramen paniceum minimum humiſtratum, ſpicâ diviſâ muticâ, foliis variegatis*; and Rumphius, *Gramen aciculatum.* It grows in both the Indies. Colonum.

9. Millet is, *Panicum paniculâ laxâ flaccidâ, foliorum vaginis pubeſcentibus.* Caſpar Bauhine calls it, *Milium ſemine luteo & albo.* It is a native of India. Miliace=um.

CHAP. CCXLVIII.

PAPAVER, POPPY.

AMONG the moſt ſhowy of the tribe of Annuals are the Poppies; plants deſigned by Nature for excellent purpoſes in medicine, and poſſeſſed of great beauty, as well as a majeſtic look; but nevertheleſs denied the two requiſites to conſtitute a deſirable flower, duration, and an agreeable odour. The real ſpecies are,

Species.

1. The Common Garden or Somniferous Poppy.
2. The Round Smooth-headed Poppy.
3. Long Smooth-headed Poppy.
4. Round Rough-headed Poppy.
5. Long Rough-headed Poppy.
6. Siberian Poppy.

Common Garden,

1. The Common Garden or Somniferous Poppy grows wild in ſome parts of England, where it uſually goes by the name of Wild Poppy. It is improved in our gardens, and the varieties of it by culture are almoſt endleſs. In its natural ſtate its uſual growth is to about a yard in height. The ſtalk is upright, ſmooth, and branching. The leaves are large, ſmooth, deeply jagged on the edges, and embrace the ſtalk with their baſe. The flowers terminate the branches, and each is compoſed of four large, roundiſh, ſpreading petals; their colour is a darkiſh-purple; they are of ſhort duration, and are ſoon ſucceeded by ſmooth, oval capſules, full of black ſeeds.

This is the Poppy in its natural ſtate, and from this plant have ariſen the numberleſs varieties we meet with. Their doubleneſs is wonderful, their colouring is no leſs amazing, and the petals of many are finely divided. Hence the names Violet Poppy, Carnation Poppy, Curled Poppy, Fringed Poppy, Feathered Poppy, &c. have been given to expreſs their different varieties. Some are ſo finely variegated, their colours ſo oppoſite, and many ſo delightfully ſpotted, that the fineſt Carnation cannot excel them at their firſt coming out; whilſt others are no leſs ſtriking by their amazing ſize, doubleneſs, the nature or diſpoſition of the petals, or the like. The ſeeds alſo will be different in colour; ſome are white, others black; and the White Poppy of the ſhops is a variety only of this ſpecies, which alſo has a double flower of exquiſite beauty.

Round Smooth-headed,

2. The Round Smooth-headed Poppy is the Common Red Poppy of our fields and banks, called Head-aches; and their improvement by culture in gardens is equal to the before-mentioned ſort. In its natural ſtate the ſtalk is rough, branching, hairy, and will grow to about a foot and a half high. The leaves are very hairy, and cut almoſt to the mid-rib, in ſo regular a manner as to cauſe the appearance of a winged leaf. The flowers terminate the ſtalks; they are of a deep and fine-red colour, each being compoſed of four large, roundiſh, ſpreading petals; theſe ſoon fall away, and are ſucceeded by round, ſmooth capſules, containing the ſeeds.

This is the Common Red Poppy of our fields, and from which have ariſen the many varieties of it in our gardens; inſomuch that we can now ſhew them of equal beauty with the former ſort, and which are by many thought preferable, as having a genteeler and not ſo rambling a look. They are exceeded by none in doubleneſs; and their various mixtures in colouring of white, red, purple; their fine variegations and different tints; the number of Painted Ladies, &c. of admirable beauty, cauſe theſe plants in general to be preferred in the flower-garden before the others.

Long Smooth-headed,

3. The Long Smooth-headed Poppy. The appearance of this ſpecies is very little different from the former. It will grow to about the ſame ſize; the leaves are ſinuated or winged in the like manner; they will be in blow at the ſame time; but the fruit that ſucceeds the flower is long, whereas that of the former is round; and in this the ſpecific diſtinction chiefly conſiſts.

Round Rough-headed,

4. Round Rough-headed Poppy. This is another of our corn Poppies, little different in appearance, but nevertheleſs a diſtinct ſpecies. It has a weak, ſlender, branching ſtalk about a foot high. The leaves are finely divided into ſeveral narrow ſegments. The flowers are ſmaller than thoſe of the Common Smooth-headed Poppy; they are of a deep-red colour, of very ſhort duration, and are ſucceeded by roundiſh, prickly-furrowed heads full of black ſeeds.

Long Rough-headed,

5. Long Rough-headed Poppy. This is another corn Poppy, but not ſo common as the other ſorts. It is but of low growth, ſeldom riſing to a foot in height. The leaves are deeply divided into many narrow ſegments. The flowers are ſmall, and of a copper colour; they will be in blow in May, and are ſucceeded by long, ſlender, prickly, channelled heads, full of ſmall, black ſeeds.

and Siberian Poppy deſcribed.

6. Siberian Poppy is a Biennial. The leaves are deeply ſinuated, rough, and hairy. The ſtalk is naked, ſlender, and will riſe to about two feet high. At the top of it ſtands a ſingle flower, of a pale-yellow colour, and finely ſcented, which appears in June, and is ſucceeded by a long, rough capſule, containing the ſeeds.

Culture.

All the ſorts of Poppies propagate themſelves faſt enough, after having once obtained a ſtock. In order to introduce them into a garden properly firſt of all, let ſome ſeeds be ſaved from the flowers of the beſt Doubles, the moſt lively colours, or ſuch as are any ways beautifully remarkable. Sow theſe, in the autumn, upon ſuch a ſpot of ground as you would chuſe to appropriate to the family of the Poppies. In the ſummer, when they begin to ſhow their bloom, you muſt conſtantly look over them; and all ſingle flowers, ſemi-doubles, and bad-coloured, or thoſe of bad properties, muſt be plucked up at their firſt appearance. Thus the beſt flowers only will be preſerved, which will ſcatter their ſeeds, and produce an admirable blow the ſucceeding ſummer: Theſe muſt alſo be gone over in the ſame manner at the firſt coming out of the flowers.

The different ſpecies muſt be ſown in different parts of the garden, in order to keep them from mixing with one another; and the ſame precaution with regard to pulling out the worſt flowers, and thinning them where they come up too cloſe, muſt be attentively obſerved.

The White Poppy is propagated for the ſupply of the ſhops; it is the Single ſort that is uſed; and as they will grow in a good ſoil to be five or ſix feet high, they muſt be thinned accordingly, or the plants will be weaker, and the ſeeds proportionally ſmaller.

Properties of the ſeeds. It is from the heads of this Poppy that the Opium is extracted in Turkey; and it is from the dried heads that, with us, the ſyrup of *Diacodium* is prepared. The ſeeds are very cooling, and good in fevers, and many inflammatory diſorders. The leaves, ſtalks, green heads, or any part of the plant, boiled in water, and ſweetened with ſugar, cauſe ſleep; but they ſhould be uſed with caution, for too large a quantity brings on death.

Titles. Somni-ferum. 1. The Common Garden or Somniferous Poppy is titled, *Papaver calycibus capſuliſque glabris, foliis amplexicaulibus inciſis.* In the *Hortus Upſal.* it is termed, *Papaver caule multifloro, foliis ſimplicibus glabris inciſis caulinis*; in the *Hortus Cliffort. Papaver foliis ſimplicibus glabris inciſis.* Caſpar Bauhine mentions five ſorts of it as diſtinct ſpecies: One he calls, *Papaver hortenſe, ſemine albo*; another, *Papaver hortenſe, ſemine nigro*; a third, *Papaver criſtatum, floribus & ſemine album*; a fourth, *Papaver criſtatum, floribus rubris, ſemine nigro*; and a fifth, *Papaver, flore pleno, album.* It grows naturally in ſome parts of England, and moſt of the ſouthern countries of Europe.

Rhoeas. 2. Round Smooth-headed Poppy is, *Papaver capſulis glabris globoſis, caule piloſo multifloro, foliis pinnatifidis inciſis.* In the *Hortus Cliffort.* it is termed, *Papaver foliis pinnatifidis hiſpidis, fructu ovato*; in the *Hortus Upſal. Papaver caule multifloro folioſo hiſpido, foliis pinnatifidis, capſulis lævibus.* Dalechamp calls it, *Papaver rhoeas prius*; Caſpar Bauhine, *Papaver erraticum majus.* The Double ſort he calls, *Papaver erraticum, pleno flore*; and another low-growing ſort, *Papaver erraticum minus.* It grows in corn-fields, on dry banks, &c. in England, and moſt parts of Europe.

3. Long Smooth-headed Poppy is, *Papaver* Dubium. *capſulis oblongis glabris, caule multifloro, ſetis adpreſſis, foliis pinnatifidis inciſis.* Tournefort calls it, *Papaver erraticum, capite longiſſimo glabro*; Moriſon, *Argemone capitulo longiore glabro.* It grows naturally in corn-fields in ſome parts of England, and in ſeveral of the northern countries of Europe.

4. Round Rough-headed Poppy is, *Papaver* Hybridum *capſulis ſubgloboſis toroſis hiſpidis, caule folioſo multifloro.* In the *Hortus Cliffort.* it is termed, *Papaver foliis ternato-pinnatifidis, capſulis ſulcatis hiſpidis*; in the *Hortus Upſal. Papaver caule ramoſo, foliis lineari-pinnatifidis, capſulis ſulcatis hiſpidis.* Caſpar Bauhine calls it, *Argemone capitulo breviore*; and Moriſon, *Argemone capitulo hirſuto rotundo torulis canaliculato.* It grows in England, and moſt of the ſouthern countries of Europe.

5. Long Rough-headed Poppy is, *Papaver* Argemone. *capſulis clavatis hiſpidis, caule folioſo multifloro.* In the *Flora Suecia* it is termed, *Papaver capſulis hiſpidis oblongo-turbinatis ſulcatis*; in the *Hortus Cliffort. Papaver foliis ternato-pinnatis, fructu angulato.* Caſpar Bauhine calls it, *Argemone capitulo longiore*; and Moriſon, *Argemone capitulo tenuiore longiore hirſuto.* It grows naturally in England, and moſt parts of Europe.

6. Siberian Poppy is, *Papaver capſulis hiſpidis,* Nudicau-*ſcapo unifloro nudo hiſpido, foliis ſimplicibus pinnato-ſinuatis.* -le. Dillenius calls it, *Papaver erraticum, nudicaule flore flavo odorato*; and Amman, *Papaver erraticum, luteo flore, capite oblongo hiſpido.* It grows naturally in Siberia.

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CHAP. CCXLIX.

PARIETARIA, PELLITORY.

Of this genus there is one Annual, called, Portugal Pellitory.

The plant deſcribed. The ſtalk is ſlender, ſmooth, ſtriated, and trailing. The leaves are ſmall, oval, obtuſe, and a little reſemble thoſe of Chickweed. The flowers come out from the ſides of the ſtalks in little cluſters; they are ſmall, greeniſh, appear in June and July, and the ſeeds ripen in Auguſt.

Culture. This plant is propagated by ſowing the ſeeds, ſoon after they are ripe, or in the ſpring; and after the plant has once flowered, and perfected its ſeeds, if they are permitted to ſcatter, plants enough for a ſucceſſion will ariſe without further trouble.

Titles. This ſpecies is titled, *Parietaria foliis ovatis obtuſis, caulibus ſtriatis lævibus filiformibus procumbentibus.* Tournefort calls it, *Parietaria Luſitanica annua minima*; and Boccone, *Parietaria Sicula, alſines folio.* Lusita-nica. It grows naturally in Portugal and Spain.

C H A P. CCL.

PARTHENIUM, BASTARD FEVERFEW.

THERE are only two ſpecies of this genus, a Perennial and an Annual. The Annual is called, American Baſtard Feverfew.

The plant deſcribed. The ſtalk is upright, firm, branching, and two or three feet high. The leaves are moderately large, hoary, divided into many parts, and on the whole have ſome reſemblance to thoſe of Wormwood. The flowers come out from the ends and ſides of the branches on footſtalks; they are ſmall, and of a white colour; they appear in July and Auguſt, and the ſeeds ripen in the autumn.

Its virtues. This plant is uſed as a vulnerary by the inhabitants of America, where the plant grows naturally.

Culture. It is propagated by ſowing the ſeeds on a hot-bed, early in the ſpring. When the plants are fit to remove, each ſhould be ſet in a ſmall pot, plunged into a freſh hot-bed, and watered and ſhaded until they have taken root. When the roots have nearly filled theſe pots, they ſhould be ſhifted into larger, being careful not to break the ball of earth, but to turn it out with the root wholly into the new pot. The plants then will not droop for being removed, but will continue their growing ſtate without interruption. If they are by this time ſufficiently hardened to the open air, they may be ſet abroad in warm, well-ſheltered, but nevertheleſs ſhady places; and if they are not ſufficiently hardened, they ſhould be continued under cover until they are, before they ſhould be ſet out, otherwiſe you will find them droop, through the cold and damps which frequently happen even in ſummer-nights. If wet weather ſhould happen when they come to flower, a ſufficient number ſhould be covered with glaſſes, in order to keep off the redundant moiſture, and enſure good ſeeds for a ſucceſſion.

This ſpecies is titled, *Parthenium foliis compoſito-multifidis*. Plukenet calls it, *Abſinthium eryſimi folio, achoavari Alpini quodammodo accedens*; and Niſſol, *Partheniaſtrum Americanum, ambroſiæ folio.* It grows naturally in Jamaica. Titles. Hystero=
=phorus.

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C H A P. CCLI.

PASSIFLORA, PASSION FLOWER.

AMONG the variety of ſpecies belonging to this genus, there is an Annual of great ſingularity, called the Stinking Paſſion Flower.

The plant deſcribed. The ſtalks are ſlender, channelled, hairy, and riſe by the help of claſpers to the height of about five or ſix feet. The leaves are trilobate, heart-ſhaped, hairy, and grow from the joints, where the claſpers alſo come out. The flowers alſo riſe from the ſame place on ſhort, ſtrongiſh footſtalks. The leaves which form the calyx are beautifully wrought like net-work; they are longer than the petals of the flowers, and turn up round it, ſo as in a great meaſure to conceal it from view. The petals are white, and the whole flower has the ſingular ſtructure peculiar to this genus.

Each flower is of ſhort duration, but there will be a ſucceſſion from the time of their firſt coming in until the end of autumn.

It is from the firſt-blown flowers you muſt expect to collect the ſeeds. The fruit that contains them is oval, and about the ſize of an egg; it is encloſed in the leaves of the calyx, and its colour is a yellowiſh-green.

Varieties. There are two or three varieties of this ſpecies; one is of ſmaller growth, another much larger; a third has very woolly leaves, and a fourth has leaves ſo little divided, that they can hardly be ſaid to be otherwiſe than ſimple leaves.

All theſe plants are diſagreeably ſcented; and each of them is, with too great juſtice, entitled to the appellation of the Stinking Paſſion Flower.

Culture. In order to bring this plant to flower, and bring its fruit to perfection, let the ſeeds be ſown on a good hot-bed by the laſt week in February, or the firſt in March. Let the bed be in good temperature before you commit the ſeeds to it; cover it with five inches depth of fine, light mould; and when the plants come up, grant them as much air as the weather will permit. In doing of this, raiſe the glaſſes on the contrary ſide to which the wind blows, ſprinkle them now-and-then with water that has been in the bed ſix hours, and by the due regulation of theſe laws, your plants will have an healthy look; but by the neglect of them, they will ſoon draw weak, have a ſickly appearance, and come to nothing.

When the plants are about three or four inches high, let each be taken up with a ball of earth to the root, and ſet in a ſmall pot filled with the like kind of fine, light mould; which being done, the pots muſt be plunged into the mould on a ſecond hot-bed, and the interſtices muſt be filled up on all ſides. A gentle watering at this time muſt be afforded, which muſt be afterwards occaſionally repeated, and the plants muſt be ſhaded until they have taken root. When the heat of this bed declines, they muſt have a third hot-bed; but previous to this, the plants muſt be ſhifted into larger pots. On this bed they muſt be placed as before, and the crevices between the pots be filled up; air and water muſt be conſtantly allowed the plants, and proper ſticks muſt be thruſt down by their ſides for their ſupport. As they advance in height, the glaſſes muſt be raiſed either by the peg-frame, or the multiplicity of frames placed one on another. By granting room in this manner, air as much as is neceſſary, and proper watering, the plants will be in blow in July, and ripen their ſeeds in the autumn.

A few pots, when they firſt come into flower, may be removed into any ſituation, and the plants will ſucceed tolerably well; but thoſe plants that are deſigned for ſeed, ought never to be taken from the bed, until they have perfected it in the autumn.

Titles. Fœtida.

The Stinking Paſſion-flower is titled, *Paſſiflora foliis trilobis cordatis piloſis, involucris multifido-capillaribus.* In the *Hortus Cliffort.* it is termed, *Paſſiflora florum involucris triphyllis multifido-capillaribus.* Herman calls it, *Flos paſſionis albus, reticulatus*; Plumier, *Clematri Indica hirſuta fœtida*; and Plukenet, *Paſſiflora veſicaria hederacea, foliis lanuginoſis, odore tetro, filamentis florum ex albo & purpureo variegatis.* It grows naturally in moſt of the Weſt Indian iſlands, and is there called Love in a Miſt.

CHAP. CCLII.

PEDALIUM.

THERE is only one ſpecies of this genus, called *Pedalium.*

The plant deſcribed.

The ſtalk is herbaceous, tender, and undivided. The leaves are oval, obtuſe, indented, truncated, and grow oppoſite to each other on glandulous footſtalks. The flowers are ſmall, and come out ſingly from the wings of the leaves; they appear in July and Auguſt, and the ſeeds ripen in the autumn.

Culture.

This plant is propagated by ſowing the ſeeds on a hot-bed in the ſpring; and when the plants are fit to remove, they muſt be tranſplanted to a ſecond. Here they may remain until the middle or end of June, or until they become tolerably ſtrong plants; they muſt then be taken up, with a ball of earth to each root, and ſet in ſome warm, rich border, where they will, if the ſeaſon prove favourable, flower and perfect their ſeeds. Leſt an unpropitious ſeaſon ſhould happen, it would be proper to keep a few plants ſtill in the bed, to be protected from heavy rain and bad weather with the glaſſes, the more effectually to enſure good ſeeds for a ſucceſſion.

Titles. Murex.

This being the only ſpecies of the genus, it is named ſimply, *Pedalium.* In the *Flora Zeylanica* it is named, *Murex*; in the *Hortus Malabricus*, *Kaku-Taly.* Herman calls it, *Hyoſcyamus maritimus, fructu tribuli aculeato, monoſpermos ſ. diſpermos.* It grows naturally in Malabar and Ceylon.

Claſs and order in the Linnæan Syſtem. The characters.

Pedalium is of the claſs and order *Didynamia Angioſpermia*; and the characters are,

1. Calyx is a ſmall perianthium divided into five parts; the upper ſegment being very ſhort, the others longer.

2. Corolla is one ringent petal. The tube is trigonal. The limb is broad, oblique, and divided into five rounded ſegments; the upper ſegments being ſmall, and the lower are broader than any of the others.

3. Stamina are four filaments ſhorter than the tube, of which two are ſhorter than the others, having twin antheræ, connected into the form of a croſs.

4. Pistillum conſiſts of a conical germen, a ſtyle the length of the ſtamina, and two equal ſtigmas.

5. Pericarpium is a reticulated, conical, four-cornered, prickly nut, containing two cells.

6. Semina. The ſeeds are two, oblong, and cloathed with an arillus.

CHAP. CCLIII.

PEDICULARIS, RATTLE, COXCOMB, or LOUSE-WORT.

OF this genus is a well-known plant of our meadows, called Marſh Louſe-wort.

The plant deſcribed.

The ſtalk is ſlender, upright, branching, uſually of a reddiſh colour near the ground, and a foot and a half or two feet high. The leaves are compoſed of ſeveral folioles, which are finely divided at their edges, and grow alternately on the branches. The flowers come out from the ſides of the branches near the top; they are of a red colour, having callous, punctated cups; they appear in June, and the ſeeds ripen in July and Auguſt.

This plant is ſaid to be poſſeſſed of the property of cauſing cattle that ſhall feed on it to become louſy.

Method of propagation.

If the ſeeds are ſown as ſoon as they are ripe, the plants will flower early the ſummer following; but if they are kept until the ſpring, they will either flower late, or not before the ſecond ſummer.

Titles. Palustris.

This ſpecies is titled, *Pedicularis caule ramoſo, calycibus calloſo-punctatis, corollis labio obliquis.* Haller calls it, *Pedicularis caule ramoſo erecto, calycibus bifidis crenatis*; Ray, *Pedicularis pratenſis rubra elatior*; and Lobel, *Pedicularis Danica maxima.* It grows common in moiſt meadows and paſtures in England, and moſt of the northern countries of Europe.

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CHAP. CCLIV.

PENTAPETES.

OF this genus there is one Annual, called Indian Vervain Mallow.

The plant deſcribed.

The ſtalk is upright, two or three feet high, and branching from the bottom to the top, the loweſt branches being the longeſt. The leaves are haſtated, ſpear-ſhaped, ſerrated, of a lucid-green colour on the upper-ſide, but paler underneath, and grow alternately on the branches. The flowers come out from the ſides of the branches on ſhort footſtalks; they are large, and of a beautiful ſcarlet colour; they appear in July, Auguſt, and September, before the end of which months, good ſeeds from the firſt-blown flowers may be gathered.

Method of propagation.

This plant is propagated by ſowing the ſeeds on a hot-bed early in the ſpring. When the plants are fit to remove, each muſt have a ſeparate pot filled with rich mould, from a well-ordered kitchen-garden; the pots muſt be then plunged up to the rims in a bark-bed, and the plants muſt be watered and kept ſhaded until they have taken root; after that they muſt have more air, and frequent waterings; and if the pots appear too ſmall for the roots, they muſt be ſhifted into larger, and plunged into the bark-bed as before. With this management they will begin to flower in July, and continue the ſucceſſion for more than three months; during which time they will exhibit a moſt beautiful appearance, and afford good ſeeds for a ſucceſſion.

Titles. Phœnicea.

This ſpecies is titled, *Pentapetes foliis haſtato-lanceolatis ſerratis.* Plukenet calls it, *Alcea Indica, lucido haſtato folio, flore blattariæ Phœniceo*; alſo, *Alcea fruticoſa pentaphylloides æmula, floribus amæniſſimè rubellis, calyce producto.* Commeline names it, *Blattaria Zeylanica, flore amplo coccineo.* It grows naturally in India.

Claſs and order in the Linnæan Syſtem. The characters.

Pentapetes is of the claſs and order *Monadelphia Dodecandria*; and the characters are,

1. CALYX is a perianthium compoſed of five coriaceous, oblong, reflexed leaves.
2. COROLLA is five oblong, patent petals.
3. STAMINA. The filaments are fifteen, linear, and connected at the baſe into a tube. Five of them, which are the largeſt, are caſtrated, coloured, ſomewhat erect, and the length of the corolla; between them are the fertile ſtamina, crowned by oblong, erect antheræ.
4. PISTILLUM conſiſts of a roundiſh germen, a cylindrical ſtyle the length of the ſtamina, and a thickiſh ſtigma.
5. PERICARPIUM is an oval, ligneous capſule, containing five cells.
6. SEMINA. The ſeeds are many, oblong, membranaceous, and compreſſed.

CHAP. CCLV.

PHALARIS, CANARY-GRASS.

OF this genus there are two Annuals, commonly called,

Species.

1. Cultivated Canary-graſs.
2. Portugal Canary-graſs.

Deſcription of Cultivated

1. Cultivated Canary-graſs. The root conſiſts of a cluſter of ſlender, white fibres. The ſtalk is ſlender, round, hollow, jointed or kneed in four or five places, and grows to about two feet high. The leaves are narrow, grow ſingly at the joints, and ſurround the ſtalk with their baſe, like moſt other graſſes. The flowers come out in oval, oblong ſpikes from the tops of the ſtalks; they are large, and often beautifully variegated with white and green; they appear in June, and continue to ſhew themſelves from different plants until the end of autumn.

and Portugal Canary-graſs.

2. Portugal Canary-graſs. This plant hath a thick, knotted root, hung with many ſlender, whitiſh fibres. The ſtalks are numerous from the root, ſmooth, round, jointed, a little downy, and about a foot high. The leaves are ſmooth, narrow, pointed, downy, grow ſingly at the joints, and like the other graſſes ſurround the ſtalk with their baſe. The flowers come out in oblong, cylindrical ſpikes from the tops of the ſtalks. Theſe ſpikes are compoſed of many parts, and of different characters. A beautiful, healthy-looking, fertile top terminates the whole ſpike, but the lower-part is barren, appears unhealthy, and as if eaten or gnawed with inſects. The plants will be in full blow in July, and the ſeeds ripen in Auguſt.

Culture.

This laſt ſort is preſerved in ſome few gardens, where a general collection of plants is kept up; the other is often cultivated in great plenty for the ſake of the ſeeds, which are well known by the name of Canary ſeeds.

This plant will grow in any ſoil or ſituation; but it delights moſt in a good, freſh earth, where the old turf is well rotted by bearing a crop or two of oats or beans, and the ground made fine by good ploughing and harrowing. It is ſowed either by broad-caſt or in drills, the latter of which methods ſeems now to be moſt generally practiſed. Three or four pecks are generally allowed to an acre in the drill-way, and by the broad-caſt more, according to the nature of the land. All ſummer the ſtricteſt care muſt be had to deſtroy the weeds as they riſe, by a regular repetition of hoeing; and in September, when the ſeeds are ripe, the crop is beſt reaped in the manner of Wheat, and laid in wads to dry. The wads muſt be turned when the upper part is dry, that the lower part may have the ſame benefit, which will be in a week, ten days, or a fortnight, according to the weather; and when the whole is ſufficiently dried, which every judicious farmer is capable of knowing, it ſhould be ſtacked up like other grain, to be in readineſs to be threſhed out for uſe.

The price of threſhing Canary-ſeed is generally five or ſix ſhillings a quarter; the price of reaping the crop about eight or ten ſhillings per acre, according to the nature of the crop being more or leſs rank, entangled or beaten about by the winds; and the produce of an acre is uſually about thirty-three buſhels of ſeeds. Inſtances have been known of fifty buſhels being the produce of an acre, and in bad crops eighteen or twenty buſhels have more than anſwered the expectation in the reſult.

Titles.

1. Cultivated Canary-graſs is titled, *Phalaris paniculâ ſubovatâ ſpiciformi: glumis carinatis.* Van Royen calls it, *Phalaris radice annuâ*; Caſpar Bauhine, *Phalaris major, ſemine albo*; and Gerard, *Phalaris.* It grows naturally by way-ſides, and borders of fields, in England, and in the Eaſt.

Canariensis.

2. Portugal Canary-graſs is, *Phalaris ſpicâ cylindricâ: floſculis mucronatis: natris plurimis; infimis præmorſis.* Ray calls it, *Gramen phalaroides Luſitanicum*; and Plukenet, *Gramen phalaroides, ſpicâ brevi reclinatâ ex utriculo prodeunte.* It grows naturally in the Eaſt.

Paradoxa.

CHAP. CCLVI.

PHASEOLUS, KIDNEY-BEAN.

THERE are ſome very ſcarce Annuals of this genus that have fine ſhowy flowers, and eatable fruit; whilſt others are propagated from motives of curioſity. They therefore ſhall ſtand thus:

Species.

1. The Scarlet Kidney-Bean.
2. The Bengal Kidney-Bean.
3. The Large Vexillum-flowered Kidney-Bean.
4. The Short Vexillum-flowered Kidney-Bean.
5. The Large Winged-flowered Kidney-Bean.

Deſcription of Scarlet Kidney-Bean.

1. The Scarlet Kidney-Bean is an admirable Bean for table uſe; but as it is ſometimes propagated for the ſake of the flowers, I thought proper to mention it to introduce the others: All that need be ſaid of it here is to ſow the ſeeds the beginning of April, and give the plants room to ſpread. If you place ſticks for their ſupport, they will climb to a great height, and their deep-ſcarlet flowers will make a fine ſhow.

Variety.

There is a ſort of this plant with white flowers, which is little noticed on their account, as the figure they make is very much inferior to the former.

Bengal,

2. The flowers of the Bengal Kidney-Bean are very ſmall, and of a greeniſh-white colour, tho' often with ſome ſtains of yellow. The pods that ſucceed them are ſmooth and crooked, and the ſeeds are oval, ſtriated, and compreſſed.

Large Standard-flowered,

3. The Large Standard-flowered Kidney-Bean. The ſtalk is very hairy, and the flowers finely ſcented. The vexillum or ſtandard is very large, ſpreading, and turns backward with a kind of twiſt. It will be in blow in July, and the flowers are ſucceeded by narrow, erect, cloſe pods, containing ripe ſeeds in the autumn.

Short Vexillum-flowered,

4. Short Vexillum-flowered Kidney-Bean. The flowers are produced in roundiſh heads, and are of a kind of purple colour. The ſtandard is very ſhort, but the wings are very large, and expanded. They will be in blow in July, and are ſucceeded by narrow, erect, taper, ſmooth pods, containing ripe ſeeds in the autumn.

and Large Winged-flowered Kidney-Bean deſcribed.

5. Large Winged-flowered Kidney-Bean. The flowers are produced in looſe ſpikes growing on long footſtalks; they are of a fine-purple colour on the firſt coming out, but die away to a blue; the wings are about the length of the ſtandard, and very broad and ſpreading. The flowers appear in July, and ripen their ſeeds in October.

The ſtalks of all theſe ſorts twine about every thing that is near them, like the Common Kidney-Bean; ſo that they muſt have proper ſticks for their ſupport, as they advance in height.

Culture.

The ſeeds muſt be ſown in April, on a fine, light, ſandy border, expoſed to the ſouth; for without ſuch an aſpect they rarely perfect their ſeeds in England.

To make this more effectual, the beſt way will be to ſow them near a ſouth wall; and as the plants advance in height, nail them to the wall, as you do fruit-trees; and this is a pretty certain method of having good ſeeds in the autumn.

Another method is, to ſow them earlier in the ſpring in pots, and give them the aſſiſtance of a moderate hot-bed; and after properly hardening them to the open air, and when all danger of ſuffering from the cold is over, then to turn them out into a warm border, with the mould at the roots; and ſuch plants flowering earlier, will have greater certainty of perfecting their ſeeds.

Titles.

1. The Scarlet Kidney-Bean is titled, *Phaſeolus volubilis, floribus racemoſis geminis, bracteis calyce brevioribus, leguminibus pendulis.* Cornutus calls it, *Phaſeolus puniceo flore*; Moriſon, *Phaſeolus Indicus flore coccineo ſ. puniceo.* It grows naturally in the Indies. Vulgaris B

2. The Bengal Kidney-Bean is, *Phaſeolus volubilis, leguminibus acinaciformibus ſublunatis lævibus.* This is, *Phaſeolus Benghalenſis ſcandens, ſiliquâ acinaciformi, ſemine ovato compreſſo ſtriato.* Berg. Viadr. 99. It is a native of Bengal. Lunatus.

3. The Large Vexillum-flowered Kidney-Bean is, *Phaſeolus volubilis, pedunculis petiolo craſſioribus capitatis, alis ſubſulcatis difformibus, leguminibus linearibus ſtrictis.* Van Royen calls it, *Phaſeolus radice annuâ, leguminibus ſtrictis erectis toroſis linearibus, caule hirſuto*; and Dillenius, *Phaſeolus flore odorato, vexillo amplo patulo.* It grows naturally at the Havannah. Vexillatus.

4. Short Vexillum-flowered Kidney-Bean is, *Phaſeolus volubilis, floribus capitatis, calycibus bracteatis, vexillis brevibus, alis expanſis maximis.* Van Royen calls it, *Phaſeolus radice annuâ, leguminibus erectis linearibus teretibus glabris*; and Dillenius, *Phaſeolus flore helvulo, alis amplis patulis.* It grows naturally in Carolina. Helvulus.

5. Large Winged-flowered Kidney-Bean is, *Phaſeolus volubilis, floribus laxè ſpicatis, alis longitudine vexilli.* Dillenius calls it, *Phaſeolus flore purpureo, alis amplis longè protenſis.* It is not certain in what part of the world this ſpecies grows naturally. Alatus.

Claſs and order in the Linnæan Syſtem. The characters.

Phaſeolus is of the claſs and order *Diadelphia Decandria*; and the characters are,

1. CALYX is a monophyllous, bilabiated perianthium. The upper lip is emarginated, and the lower indented in three parts.

2. COROLLA is papilionaceous. The vexillum is heart-ſhaped, obtuſe, emarginated, inclined, and reflexed on the ſides. The alæ are oval, and the length of the vexillum. The carina is narrow, and twiſted contrary to the ſun's motion.

3. STAMINA are diadelphous. Nine filaments are joined together, the other ſtands alone; and their antheræ, which are ten in number, are ſimple.

4. PISTILLUM conſiſts of an oblong, hairy, compreſſed germen; a filiforme, inflexed, ſpiral, downy ſtyle; and an obtuſe, thick, hairy ſtigma.

5. PERICARPIUM is a long, ſtraight, coriaceous pod, ending with an obtuſe point.

6. SEMINA. The ſeeds are reniforme, oblong, and compreſſed.

CHAP.

CHAP. CCLVII.

PHLEUM.

THERE is an Annual of this genus called, Sea Cat's-Foot Graſs.

The plant deſcribed. The root conſiſts of ſeveral ſlender, whitiſh fibres. The ſtalk is ſlender, hollow, jointed, branching, and about a foot high. The leaves are narrow, of a greyiſh-green colour, and ſurround the ſtalks almoſt to the top. The flowers come out from the ends of the branches in oval, ciliated ſpikes; they appear chiefly in June and July, but are to be found ſometimes in the end of ſummer, and in the autumn.

Culture. This ſmall Graſs grows naturally on the ſandy ſea-ſhores, and may be raiſed in plenty, if a perſon chuſes it, by ſowing the ſeeds in the ſummer, as ſoon as they are ripe, or in the autumn, or in the ſpring following.

Titles. Arenarium. This ſpecies is titled, *Phleum ſpicâ ovatâ ciliatâ, caule ramoſo.* Ray calls it, *Gramen typhinum maritimum minus*; Parkinſon, *Gramen typhinum Danicum minus*; and Hudſon, *Phalaris ſpicâ ovatâ; calycis valvulis dorſo ciliatis, culmo ramoſo.* It grows naturally in ſandy places, eſpecially near the ſea, in England, and moſt countries of Europe.

CHAP. CCLVIII.

PHYSALIS, ALKEKENGI, or WINTER CHERRY.

THE Annuals of this genus which are diſtinct ſpecies are,

Species.

1. Angular Winter Cherry.
2. Downy Winter Cherry.
3. Hoar-froſt Winter Cherry.
4. Leaſt Winter Cherry.

Deſcription of Angular Winter Cherry. 1. Angular Winter Cherry. The ſtalk is upright, firm, two or three feet high, and divides into numerous branches, all of which are angular, and very ſmooth. The leaves are oval, pointed, and ſharply indented on the edges. The flowers come out from the ends and ſides of the branches on ſhort, ſlender footſtalks; they are ſmall, and of a bad white colour; they appear in July and Auguſt, and are ſucceeded by large, yellowiſh berries, ſituated at the bottom of their membranaceous covers, and which ripen in the autumn.

Varieties. There are many varieties of this ſpecies, differing in ſome reſpect or other; but they are known to belong to this ſpecies by their ſmooth, angular branches, and the oval, indented leaves.

Downy Winter Cherry deſcribed. 2. Downy Winter Cherry. This Annual divides into numerous branches from the bottom; theſe are taper, jointed, divide into others, which ſpread every way, and, unleſs ſupported, lie on the ground. The leaves are heart-ſhaped, oblong, ſharply indented on the edges, have longiſh footſtalks, and are covered with a hairy, downy, viſcous matter. The flowers come out from the ſides of the branches on ſhort, nutant footſtalks; they are of a greeniſh-yellow colour, with dark bottoms; they appear in June and July, and are ſucceeded by large, yellowiſh Cherries, ſituated at the bottom of their light-green covers, which ripen in the autumn.

Varieties. The varieties of this ſpecies are numerous, ſome being two or three feet high, others low and procumbent; ſome almoſt green, and others white and downy: The colour and ſize of the flowers and fruit alſo vary; ſome being in both reſpects of larger ſize than the others, and frequently of better colours.

Hoar-froſt and Leaſt Winter Cherry deſcribed. 3. Hoar-froſt Winter Cherry. This is a low branching Annual. The ſtalks divide from the very bottom into numerous branches, which again divide into others. The branches are hairy, taper, a little flatted on the upper ſide, and poſſeſſed, eſpecially at the diviſions of the branches, of a kind of froſty like looking matter. The leaves are oval, pointed, hairy, viſcous, or clammy to the touch. The flowers come out from the ſides of the branches on long, ſlender footſtalks; they hang drooping, and are of a dirty-yellow colour, with dark-coloured bottoms; they appear in July and Auguſt, and are ſucceeded by large berries, of a greeniſh yellow colour, which ripen in the autumn.

4. Leaſt Winter Cherry. This little Annual divides from the bottom into numerous branches, which again divide into others, and unleſs ſupported lie on the ground. The leaves are ſmall, oblong, pointed, and hairy. The flowers come out from the ends and ſides of the branches on ſhort, ſlender footſtalks; they are of a whitiſh colour, appear in July and Auguſt, and are ſuc-

ceeded by ſmall, greeniſh berries, which ripen in the autumn.

Culture. Theſe ſorts are eaſily raiſed by ſowing the ſeeds in a bed of fine earth in the ſpring: but as they will flower late that way, and as in wet ſeaſons the ſeeds ſeldom ripen, the beſt way will be to ſow them on a hot-bed, and when they are fit to tranſplant, to remove them on a moiſt day, with a ball of earth to each root, into the places where they are to flower; which will be earlier by a month than thoſe on the common ground, and the berries will be pretty ſure of coming to perfection.

Theſe plants often ſow themſelves where they have perfected their ſeeds; and plants thus riſing from caſual ſeeds, are, for the moſt part, earlier and finer plants than thoſe raiſed by art.

Titles. Angulata. 1. Angular Winter Cherry is titled, *Phyſalis ramoſiſſima, ramis angulatis glabris, foliis ovatis dentatis.* Van Royen calls it, *Phyſalis annua ramoſiſſima, ramulis anguloſis glabris, foliis dentato-ſerratis*; Commeline, *Halicacabum, ſ. ſolanum Indicum*; Caſpar Bauhine, *Solanum veſicarium Indicum*; and Dillenius, *Alkekengi Indicum glabrum, capſicii folio.* It grows naturally in India.

Pubescens. 2. Downy Winter Cherry is, *Phyſalis ramoſiſſima, foliis villoſo-viſcoſis, floribus pendulis.* In the *Hortus Cliffort.* it is termed, *Phyſalis annua ramoſiſſima, ramis teretibus pubeſcentibus, geniculis nodoſis.* Fewill calls it, *Alkekengi Virginianum, fructu luteo*; and Moriſon, *Solanum veſicarium Virginianum procumbens annuum, folio lanuginoſo.* It grows naturally in Virginia.

Pruinosa. 3. Hoar-froſt Winter Cherry is, *Phyſalis ramoſiſſima foliis villoſis, pedunculis ſtrictis.* Dillenius calls it, *Alkekengi Indicum chenopodii folio.* It grows naturally in America.

Minima. 4. Leaſt Winter Cherry is, *Phyſalis ramoſiſſima, pedunculis fructiferis folio villoſo longioribus.* Herman calls it, *Solanum veſicarium Indicum minimum.* It grows naturally in India.

CHAP. CCLIX.

PHYTOLACCA, AMERICAN NIGHTSHADE.

THERE is one Annual of this genus, called, Malabrian *Phytolacca.*

The plant deſcribed. The ſtalk is herbaceous, upright, furrowed, two or three feet high, and divides into a few branches near the top; it is green all ſummer, and changes to a purple colour as it dies off in the autumn. The leaves are ſpear-ſhaped, pointed, of a deep-green colour, ſometimes grow oppoſite, and ſometimes alternately on ſhort footſtalks. The flowers are produced in ſpikes, growing on long footſtalks, which come out from the ſides of the branches oppoſite to the leaves; they are moderately large, have their ſeparate ſhort pedicles, though in the lower parts of the ſpike one pedicle frequently ſupports three flowers; they are uſually of a white colour, though frequently tipped with green, and backed with purple. In the lower flowers there are always twenty ſtamina, and ten ſtyles; they will be in blow in July and Auguſt, and are ſucceeded by furrowed, umbilicated, purple-coloured berries, containing ripe ſeeds in the autumn.

The expreſſed juice of theſe berries affords a beautiful, but not permanent, purple colour to paper or linen.

Culture. This plant is propagated by ſowing the ſeeds on a hot-bed in the ſpring. When the plants are fit to remove, each ſhould have a ſeparate pot, which muſt be plunged into a freſh hot-bed, and ſhaded and watered until they have taken root. When the heat of the bed is abated, they may be turned out of the pots, with the mould at the roots, into warm, well-ſheltered places; or they may be continued in the pots, if they are large enough. In either caſe they will flower in July or Auguſt, and perfect their ſeeds in the autumn.

Some afford theſe plants, in raiſing, three ſucceſſive hot-beds; but I ever found a third to be unneceſſary trouble, if due care had attended them through the firſt two.

Titles. Icosandra. This ſpecies is titled, *Phytolacca floribus Icoſandris decagynis.* In Miller's Dictionary it is termed, *Phytolacca ſpicis florum longiſſimis, radice annuâ.* It grows naturally in Malabar.

CHAP. CCLX.

PICRIS.

THERE are two ſhort-lived ſpecies of this genus, called,

Species.

1. Ox-tongue.
2. Yellow Succory, or Rough Hawkweed.

Deſcription of Ox-tongue,

1. Ox-tongue. The root is thick, yellowiſh, fibrous, and ſtrikes deep into the ground. The ſtalks are upright, thick, hairy, a foot and a half high, and branching near the top. The leaves are oblong, tongue-ſhaped, very hairy, and rough to the touch. The flowers come out from the ends and ſides of the branches on rough, hairy, footſtalks, ſurrounded by a very large double calyx. They are of a yellow colour; they appear in June, July, and Auguſt; and are ſoon followed by ripe, downy ſeeds, which the wind will blow about to a conſiderable diſtance.

and Yellow Succory.

2. Yellow Succory, or Rough Hawkweed. The root is tough, and fibrous. The ſtalks are upright, ſlender, rough, hairy, and a foot and a half high. The leaves are oblong, narrow, very rough, hairy, and embrace the ſtalk with their baſe. The flowers come out from the tops of the ſtalks on rough, hairy footſtalks; they are large, and of a yellow colour; they appear in June, and continue in ſucceſſion all ſummer.

Culture.

Theſe ſorts are raiſed by ſowing the ſeeds, ſoon after they are ripe, or the ſpring following. When the plants come up, they muſt be thinned where they are too cloſe, kept clean from weeds; and after they have once flowered and perfected their ſeeds, plants enough will ſpontaneouſly ariſe for a ſucceſſion without further trouble.

Titles. Echioides.

1. Ox-tongue is titled, *Picris perianthiis exterioribus pentaphyllis interiore ariſtato majoribus.* In the *Hortus Cliffort.* it is termed, *Picris calycibus ſimplicibus perianthio maximo obvalatis.* Caſpar Bauhine calls it, *Hieracium echioides capitulis cardui benedicti*; Lobel, *Bugloſſum echioides luteum hieracio cognatum*; Herman, *Hieracium capitulis cardui benedicti*; Gerard, *Bugloſſum luteum*; and Parkinſon, *Bugloſſum luteum, ſ. lingua bovis.* It grows naturally on the borders of fields in England, France, and Italy.

Hieracioides.

2. Yellow Succory, or Rough Hawkweed, is, *Picris perianthiis laxis, foliis integris.* Caſpar Bauhine calls it, *Cichorum pratenſe luteum hirſutiè aſperum*; John Bauhine, *Hieracium aſperum, majore flore, in agrorum limitibus*; Gerard, *Hieracium aſperum*; and Parkinſon, *Cichorum pratenſe luteum aſperum.* It grows chiefly in the borders of fields in England, France, and Germany.

CHAP. CCLXI.

PIMPINELLA, BURNET SAXIFRAGE.

THERE is only one Annual of this genus, which is the Common Aniſe.

The plant deſcribed.

The ſtalk is upright, though weak, round, ſtriated, hollow, jointed, branching, and about a foot and a half high. The radical leaves are divided into three principal parts, which are deeply cut or ſlaſhed on the edges; thoſe on the ſtalks are ſlender, and cut into three or four narrow ſegments. The flowers come out from the ends of the branches in looſe umbels; they are ſmall, and of a yellowiſh-white colour; they appear in July, and are ſucceeded by thoſe well-known ſeeds, called Aniſe-ſeeds, which ripen ſometimes in the autumn.

Properties of the ſeeds.

The ſeeds are an excellent carminative, and reckoned in the number of the four greater hot ſeeds; they have a pleaſant aromatick taſte and ſmell; and, beſide their many uſes in medicine, are in great eſteem with paſtry-cooks, to give a fine flavour to cakes and various compoſitions in their way. They afford an eſſential oil, and a compound water; and are of ſuch general uſe, that the plant is cultivated in amazing quantities, for ſale, in Malta, and ſeveral of the ſouthern parts of Europe, from whence we annually receive the ſeeds.

Method of propagation.

This plant is too tender to be cultivated to national advantage in England, but may be raiſed by ſowing the ſeeds the beginning of April, in beds of light, freſh earth, warmly ſituated. The plants will readily come up, and require no trouble, except keeping them clean from weeds. They will flower in July, or early in Auguſt; but unleſs the ſeaſon for the ſeeds proves warm and dry, they rarely ripen, which diſqualifies us for attempting to cultivate this plant for profit.

Titles. Anisum.

The title of Aniſe is, *Pimpinella foliis radicalibus trifidis inciſis.* In the *Hortus Cliffort.* it is termed, *Aniſum foliisradicalibus ſimplicibus.* Cluſius names it, *Aniſum vulgare*, and Caſpar Bauhine, *Aniſum herbariis*; alſo, *Cuminum ſemine rotundiore et minore.* It grows naturally in Ægypt.

CHAP.

CHAP. CCLXII.

PIPER, PEPPER.

OF this genus there are two Annuals, called,

Species.
1. Pellucid Pepper.
2. Verticillated Pepper.

Deſcription of Pellucid

1. Pellucid Pepper. The ſtalk is herbaceous, ſucculent, procumbent, and eight or ten inches long. The leaves are heart-ſhaped, thick, ſucculent, and grow on ſhort footſtalks. The flowers come out from the ends of the ſtalks in ſlender, ſtraight ſpikes; they are very ſmall, and ſit cloſe to the ſtalks; they appear in July and Auguſt, and are ſucceeded by ſmall berries, containing ripe ſeeds in the autumn.

and Verticillated Pepper.

2. Verticillated Pepper. The ſtalk is thick, jointed, ſucculent, and about a foot high. The leaves are oval, have three conſpicuous nerves, and ſurround the ſtalk in a radiated manner at the joints. The flowers are produced from the tops of the ſtalks in ſpikes; they are very ſmall, and ſit cloſe; they appear in July and Auguſt, and the ſeeds ripen in the autumn.

Culture.

Theſe ſorts are raiſed by ſowing the ſeeds on a hot-bed, early in the ſpring. When they come up, all the care and caution neceſſary for tender ſeedlings muſt accompany them until they are about three inches high; then each muſt be ſet in a ſeparate pot filled with light, rich earth. A ſlight watering muſt be afforded them; then they ſhould be plunged up to the rims in a good bark-bed, and ſhaded and watered until they have taken root; after that they muſt have more air, eſpecially in hot weather; but all along they muſt have little water, becauſe the leaves and ſtalks being ſucculent, it will cauſe them to rot. With theſe precautions they will flower about the end of July, or early in Auguſt, and the ſeeds will be ripe in the autumn. Theſe, if permitted to ſcatter, will come up in the pots, or any contiguous pots, like hardy weeds, in the open borders of the garden; and if theſe plants are taken up, potted, and plunged into the ſtove, they may be preſerved all winter, and they will then flower early the ſummer following.

Titles. Pellucidum.

1. The firſt ſpecies is titled, *Piper foliis cordatis petiolatis, caule herbaceo.* In the *Hortus Cliffort.* it is termed, *Piper foliis cordatis, caule procumbente.* Plumier calls it, *Saururus minor procumbens botryitis, folio craſſo cordato.* It grows naturally in the Weſt Indies.

Verticillatum.

2. The ſecond ſpecies is, *Piper foliis verticillatis ovatis trinervis.* Brown calls it, *Saururus erectus minor, foliis orbiculatis verticillatis tumentibus, ſpicis terminalibus.* It grows naturally in Jamaica.

Claſs and order in the Linnæan Syſtem. The characters.

Piper is of the claſs and order *Diandria Trigynia*; and the characters are,

1. Calyx. There is no perfect ſpatha. The ſpadix is filiforme, ſimple, and covered with the flowers. There is no perianthium.

2. Corolla. There is none.

3. Stamina. There are no filaments, but two roundiſh antheræ, placed oppoſite at the baſe of the germen.

4. Pistillum conſiſts of a large, oval germen, without any ſtyle, but a triple, hiſpid ſtigma.

5. Pericarpium is a roundiſh berry, containing one cell.

6. Semen. The ſeed is ſingle, and globular.

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CHAP. CCLXIII.

PISUM, The PEA.

BESIDES the number of varieties of the Pea that are cultivated for the table, there is a diſtinct and ſeparate ſpecies, which is ſometimes raiſed as an Annual in the flower-garden. It is commonly called the Italian Winged Pea.

The plant deſcribed.

The ſtalks are angular, and will grow to near a yard long. The leaves are compoſed of two oblong lobes, and are placed on membranaceous or winged footſtalks. The flowers are of a pale-yellow colour, ſmall, and grow ſingly on footſtalks; they are of the Pea kind, and are ſucceeded by roundiſh, compreſſed Peas, which are eaten in ſome parts.

Culture.

This plant is propagated by ſowing the ſeeds in the ſpring, in rows a yard aſunder; and as they advance in height, draw the earth up to the ſtems, and keep them clean from weeds; they will then, like our garden Peas, flower and bring their fruit to perfection by the end of ſummer.

Titles. Ochrus.

This ſpecies is titled, *Piſum petiolis decurrentibus membranaceis diphyllis, pedunculis unifloris.* Caſpar Bauhine calls it, *Ochrus folio integro capreolas emittente*; and Dodonæus, *Ervilia ſylveſtris.* It grows naturally among corn in Italy and Crete.

CHAP. CCLXIV.

PLANTAGO, PLANTAIN.

Species. THE Annuals of this genus are,
1. Virginian Plantain.
2. Flea-wort.
3. Ægyptian Plantain.

Virginian Plantain, and Flea-wort deſcribed. 1. Virginian Plantain. The root is thick, tender, turbinated, and hung with ſeveral whitiſh fibres. The leaves are ſpear-ſhaped, oval, downy, and ſlightly indented on the edges. The ſtalks are angular, upright, hoary, and ſix or eight inches high. The flowers come out from the tops of the ſtalks in cylindrical, downy ſpikes; their appearance is in July and Auguſt, and the ſeeds ripen in September.

2. Flea-wort. The root is fibrous, long, ſlender, and white. The ſtalk is herbaceous, round, upright, hairy, branching from the bottom almoſt to the top, and about a foot high. The leaves are long, narrow, indented, clammy to the touch, and the lower ones grow oppoſite; but thoſe on the upper parts of the plant are three or four at a joint. The flowers are collected in ſmall, naked heads, which come out from the wings of the leaves on long, ſlender footſtalks; they are of a whitiſh or whitiſh-yellow colour; they appear in July and Auguſt; and are ſucceeded by ripe ſeeds in September.

Virtues of the ſeeds. The ſeeds of this ſpecies are ſmall, gloſſy, and reſemble Peas. Being thrown into boiling water, they afford a mucilage, which is frequently made uſe of in emollient glyſters, and which is ſometimes, though with great caution (for they are reckoned in ſome degree poiſonous), taken inwardly in hot, burning fevers, in which caſes it generally either promotes ſweat, or proves cathartic. It is alſo good againſt St. Anthony's fire, and hot inflammations of moſt ſorts.

Ægyptian Plantain deſcribed. 3. Ægyptian Plantain. The ſtalk is herbaceous, hairy, divides from the bottom almoſt to the top into numerous branches, and grows to about a yard high. The leaves are long, narrow, entire, reflexed, and the lower ones grow oppoſite, but the upper ones are uſually three at a joint. The flowers come out from the wings of the branches on long footſtalks; they are collected into ſmall heads, attended by wedge-ſhaped, concave, retuſe bracteæ; they appear in July and Auguſt, and the ſeeds ripen in the autumn.

Culture. The firſt two ſorts are eaſily raiſed by ſowing the ſeeds in the autumn, ſoon after they are ripe, in any bed of common mould made fine, and they will readily come up and flower early the ſummer following.

The third ſort is beſt raiſed on a hot-bed in the ſpring. When the plants are fit to remove, they may be ſet out in a warm border, obſerving to preſerve a ball of earth to each root, and to make choice of a moiſt day, if poſſible, for the performance. For want of this weather, they ſhould be conſtantly ſhaded, and duly watered until they have taken root; and after that they will require no further trouble, except keeping them clean from weeds.

Titles. 1. Virginian Plantain is titled, *Plantago foliis lanceolato-ovatis pubeſcentibus ſubdenticulatis, ſpicis cylindricis pubeſcentibus, ſcapo angulato.* Virginica. Moriſon calls it, *Plantago media incana Virginiana, ſerratis foliis annua*; Plukenet, *Plantago Virginiana piloſellæ foliis anguſtis, radice turbinatâ*; Petiver, *Plantago Mariana, ſpicâ prætenui*; and Ray, *Plantago myoſotis ſ. trinervia hirſuta Carolina.* It grows naturally in Virginia.

2. Flea-wort is, *Plantago caule ramoſo herbaceo, foliis ſubdentatis recurvatis, capitulis aphyllis.* Pſyllium. Van Royen calls it, *Plantago caule ramoſo*; Dodonæus, *Pſyllium*; and Caſpar Bauhine, *Pſyllium majus erectum.* It grows naturally among the corn in moſt of the ſouthern countries of Europe.

3. Ægyptian Plantain is, *Plantago caule ramoſo herbaceo, foliis integerrimis reflexis, capitulis folioſis.* Indica. It grows naturally in Ægypt.

CHAP. CCLXV.

POA.

THERE are two Annuals of this genus, called,

Species.

1. Annual Meadow-graſs, or Suffolk-graſs.
2. Hard Meadow-graſs.

Deſcription of Annual

1. Annual Meadow-graſs, or Suffolk-graſs. The root has numerous, ſlender, hair-like fibres. The radical leaves are numerous, ſhort, narrow, and graſſy. The ſtalks are ſlender, jointed, oblique, compreſſed, and five or ſix inches high. The flowers come out from the tops of the ſtalks in diffuſed panicles. The ſpiculæ, or little ſpikes, are ſoft, broad, and obtuſe; they are uſually of a red colour, though in ſome varieties they are white; they appear ſo early as April, and continue in ſucceſſion until the end of ſummer.

and Hard Meadow-graſs.

2. Hard Meadow-graſs. The fibres of the root are very ſlender, numerous, and of a whitiſh colour. The leaves are numerous, narrow, ſharp-pointed, and ſeldom more than two or three inches long. The ſtalks are very ſlender, round, and upright. The general panicle is ſpear-ſhaped, compoſed of many ſmaller, arranged alternately along the tops of the ſtalks; they are ſmall, and hard to the touch; they appear in June and July, and often continue in ſucceſſion until the end of ſummer.

The firſt ſort is to be found every-where in our meadows and paſtures, but more eſpecially by road-ſides; the other is not ſo common, and inhabits chiefly ſterile, ſandy places, old walls, buildings, &c. when the ſucceſſion is ſpontaneouſly kept up from ſcattered ſeeds.

Titles. Annua.

1. The firſt ſpecies is titled, *Poa paniculâ diffuſâ, angulis rectis, ſpiculis obtuſis, culmo obliquo compreſſo.* Caſpar Bauhine calls it, *Gramen pratenſe paniculatum minus*; Ray, *Gramen pratenſe minus vulgatiſſimum*; Tournefort, *Gramen pratenſe paniculatum minus rubrum*; and Gerard and Parkinſon, *Gramen pratenſe minimum album et rubrum.* It grows in moſt countries of Europe.

Rigida.

2. The ſecond ſpecies is, *Poa paniculâ lanceolatâ ſubramoſâ, floribus alternis ſecundis.* Ray calls it, *Gramen exile duriuſculum in muris & aridis proveniens*; Barrelier, *Gramen arvenſe, filicinâ duriore paniculâ*; Moriſon, *Gramen loliaceum murorum duriuſculum, ſpicâ erectâ rigidâ*; Caſpar Bauhine, *Gramen paniculâ multiplici*; and Hudſon, *Poa paniculâ lanceolatâ ſubramoſâ, paniculis alternis ſecundis.* It grows naturally in dry places in England and France.

CHAP. CCLXVI.

POLYCARPON.

THERE is only one ſpecies of this genus, called *Polycarpon.*

The plant deſcribed.

The ſtalk is ſlender, jointed, branching, weak, and unable to ſupport itſelf erect. The leaves are ſhaped like thoſe of Chickweed, and four of them ſurround the ſtalk at the joints. The flowers come out from the tops of the ſtalks in panicles; they are ſmall, and of a whitiſh colour; they appear in June and July, and the ſeeds ripen in Auguſt.

Culture.

This plant is propagated by ſowing the ſeeds, ſoon after they are ripe, or the ſpring following, in ſome light, dry part of the garden; and when the plants come up, they will require no trouble, except thinning them where they are too cloſe, and keeping them clean from weeds. After they have flowered, and the ſeeds are ſcattered, the ſucceſſion will be maintained without trouble to the Gardener.

Titles.

This being the only ſpecies belonging to the genus, it is called, ſimply, *Polycarpon.* In the former edition of the *Species Plantarum* it ſtands with the title, *Mollugo foliis quaternis obovatis, paniculâ dichotomâ.* Caſpar Bauhine calls it, *Anthyllis marina alſinefolia*; and Barrelier, *Anthyllis alſinefolia polygonoides major.* It grows naturally in the vineyards of Italy, and the ſouth of France.

Tetraphyllum.

Claſs and order in the Linnæan Syſtem. The characters.

Polycarpon is of the claſs and order *Triandria Trigynia*; and the characters are,

1. CALYX is a perianthium formed of five oval, concave, carinated, mucronated, permanent leaves.
2. COROLLA is five extremely ſhort, oblong, emarginated, permanent petals.
3. STAMINA are three filiforme filaments half the length of the calyx, having roundiſh antheræ.
4. PISTILLUM conſiſts of an oval germen, and three very ſhort ſtyles, with obtuſe ſtigmas.
5. PERICARPIUM is an oval capſule, formed of three valves, and containing one cell.
6. SEMINA. The ſeeds are many, and oval.

CHAP. CCLXVII.

POLYCNEMUM.

THERE is only one ſpecies of this genus, called *Polycnemum*.

The plant deſcribed. The ſtalks are weak, jointed, divide into numerous branches, and lie on the ground. The leaves are awl-ſhaped, narrow, pointed, and grow at the joints, ſitting cloſe, without footſtalks. The flowers come out ſingly from the wings of the leaves, are ſmall, and of a greeniſh colour; they appear in July and Auguſt, and the ſeeds ripen in September.

Culture. This plant is propagated by ſowing the ſeeds, in beds of light, freſh earth, in the beginning of April. After the plants come up, they will require no trouble, except thinning them where they are too cloſe, and keeping them clean from weeds.

Titles. Arvense There being no other ſpecies of the genus, it ſtands with the name, ſimply, *Polycnemum*. Guettard calls it, *Chenopodium foliis ſubulatis priſmaticis, floribus ſolitariis ſeſſilibus axillaribus*; Tournefort, *Chenopodium annuum humifuſum, folio breviore & capillaceo*; Haller, *Camphorata vaginis ſpinoſis*; Caſpar Bauhine, *Camphorata congener*; and Magnol, *Herniaria foliis longis anguſtis acuminatis & glabris*. It grows naturally in the corn-fields of Gaul, Italy, and Germany.

Claſs and order in the Linnæan Syſtem. *Polycnemum* is of the claſs and order *Triandria Monogynia*; and the characters are,

The characters. 1. CALYX is a perianthium compoſed of five ſpear-ſhaped, erect, acute, permanent leaves.

2. COROLLA. There is none.

3. STAMINA are three capillary filaments, ſhorter than the calyx, having obtuſe antheræ.

4. PISTILLUM conſiſts of a roundiſh germen, and a bifid ſtyle the length of the ſtamina, with obtuſe ſtigmas.

5. PERICARPIUM is a very thin membrane.

6. SEMEN. The ſeed is ſingle.

CHAP. CCLXVIII.

POLYGALA, MILK-WORT.

Species. THE ſhort-lived ſpecies of this genus are,

1. Carnation Milkwort.
2. Montpelier Milkwort.
3. Yellow Milkwort.
4. Green-and-White Milk-wort.
5. Bloody Milkwort.
6. Verticillate Milkwort.

Deſcription of Carnation 1. Carnation Milkwort. The ſtalk is herbaceous, upright, ſlender, angular, branching, and eight or ten inches high. The leaves are awl-ſhaped, acute, and grow alternately at a diſtance from each other, being very ſparingly beſtowed on the plant. The flowers come out from the tops of the branches in oblong, ſhort ſpikes or bunches; they are large, of a lively fleſh-colour, appear in July, and the ſeeds ripen in September.

Montpelier, 2. Montpelier Milkwort. The ſtalk is upright, ſlender, and about ſix inches high. The leaves are ſpear-ſhaped, narrow, acute-pointed, and grow alternately. The flowers come out in kind of ſpikes from the tops of the ſtalks, are ſmall, and of a worn-out purple colour; they appear in July, and the ſeeds ripen in the autumn.

Yellow, 3. Yellow Milkwort. The ſtalk is erect, herbaceous, undivided, and about a foot high. The leaves are ſpear-ſhaped, and acute-pointed. The flowers come out from the tops of the ſtalks in oblong heads, are of a yellow colour, appear in July, and the ſeeds ripen in the autumn.

Green-and-White, 4. Green-and-White Milkwort. The ſtalk is herbaceous, erect, ſimple, angular, and ten or twelve inches high. The leaves are ſpear-ſhaped, obtuſe-pointed, and grow alternately. The flowers come out from the tops of the ſtalks in roundiſh bunches, and are of a greeniſh colour, with ſome white and a mixture of dull-red in the wings; they appear in July and Auguſt, and the ſeeds ripen in the autumn.

Bloody, 5. Bloody Milkwort. The ſtalk is upright, firm, angular, about a foot high, and ſends forth ſeveral erect branches, which advance above the main-ſtalk in height. The leaves are ſpear-ſhaped, narrow, and grow alternately. The flowers come out from the tops of the ſtalks and branches in looſe, oval ſpikes; they are of a blood-red colour, appear in July and Auguſt, and the ſeeds ripen in the autumn.

and Verticillate Milkwort. 6. Verticillate Milkwort. The ſtalks are ſlender, herbaceous, upright, branching, and eight or ten inches high. The leaves are narrow, and grow ſometimes alternately, but for the moſt part ſurround the ſtalk in whorls at the joints. The flowers come out in ſpikes from the ends and ſides of the branches, are ſmall, of a whitiſh colour, appear in July and Auguſt, and the ſeeds ripen in the autumn.

Culture. All theſe ſpecies are propagated by ſowing the ſeeds, in the places where they are to remain, ſoon after they are ripe. They love a light, loamy earth; and, if ſown in the autumn, they ſhould have a well-ſheltered ſituation, to preſerve ſuch plants as may appear ſoon enough through the winter. They muſt be thinned to proper diſtances; but this ſhould not be performed before the ſpring, for probably the winter will ſave you that trouble. Their after-care will only be keeping them clean from weeds, and watering them in dry weather; and having once flowered and ſhed their ſeeds, they will frequently produce plants enough for a ſucceſſion without further trouble.

The ſeeds may alſo be ſown in the ſpring; but then the plants will flower later in the ſeaſon, and the ſeeds will not grow ſo readily, as if ſown in the autumn ſoon after they are ripe.

Titles.

Incarnata.

1. Carnation Milkwort is titled, *Polygala floribus criſtatis ſpicatis, caule herbaceo ramoſo erecto, foliis alternis ſubulatis.* Ray calls it, *Polygala Marilandica, foliis tenuiſſimis, ſpicâ parvâ compactâ in ſummo caule floſculis carneis.* It grows naturally in Virginia and Canada.

Monspeli=
=aca.

2. Montpelier Milkwort is, *Polygala floribus criſtatis racemoſis, caule erecto, foliis lanceolato-linearibus acutis.* Magnol calls it, *Polygala annua erecta anguſtifolia, floribus coloris obſoleti carneis lineis virgatis*; Caſpar Bauhine, *Polygala acu tioribus foliis Monſpeliaca*; and John Bauhine, *Polygala vulgaris coloris obſoleti, foliis anguſtiſſimis.* It grows naturally in ſterile places near Montpelier.

Lutea.

3. Yellow Milkwort is, *Polygala floribus imberbibus oblongo-capitatis, caule erecto herbaceo ſimpliciſſimo, foliis lanceolatis acutis.* Plukenet calls it, *Polygala Floridana lutea, floribus in capitulum congeſtis*; Ray, *Polygala ſ. flos Ambervalis floribus luteis in capitulum oblongum congeſtis*; and Petiver, *Polygala Virginiana, ſpicâ parvâ compactâ.* It grows naturally in Virginia.

Virides=
=cens.

4. Green-and-White Milkwort is, *Polygala floribus imberbibus globoſo-capitatis, caule erecto herbaceo ſimpliciſſimo, foliis lanceolatis obtuſiuſculis.* Gronovius calls it, *Polygala foliis lanceolatis alternis, caule ſimpliciſſimo, corymbo terminali capitato*; and Plukenet, *Polygala rubra Virginiana, ſpicâ parvâ compactâ.* It grows naturally in Virginia.

Sangui=
=nea.

5. Bloody Milkwort is, *Polygala floribus imberbibus, pedunculis ſquarroſis, caule herbaceo ramoſo erecto.* Plukenet calls it, *Polygala Mariana, anguſtiori folio, flore purpureo.* It grows naturally in Virginia.

Verticil=
=lata.

6. Verticillate Milkwort is, *Polygala floribus imberbibus ſpatio remotis, foliis linearibus verticillatis, caule herbaceo ramoſo.* In the *Amænit. Acad.* it is termed, *Polygala floribus imberbibus ſpicatis, caule erecto herbaceo filiformi ramoſo, foliis linearibus.* Gronovius calls it, *Polygala caulibus filiformibus, foliis linearibus alternis, pedunculis ſpicatis*; Plukenet, *Polygala Mariana quadrifolia minor, ſpicâ parvâ albicante*; and Ray, *Polygala quadrifolia minima Marilandica, ſpicis florum parvis albentibus.* It grows naturally in Virginia.

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C H A P. CCLXIX.

POLYGONUM, KNOT-GRASS.

Species.

OF this genus are,

1. Common Knot-Graſs.
2. Water Pepper, or Arſmart.
3. Dead or Spotted Arſmart.
4. Pale Arſmart.
5. Oriental Arſmart.
6. Upright *Polygonum.*
7. Articulated *Polygonum.*
8. Tartarian *Helxine.*
9. Black Bindweed.
10. Climbing Buckwheat of the Thickets.
11. American Climbing Buckwheat.
12. Common Buckwheat, or Brank.

Common Knot-Graſs deſcribed.

1. Common Knot-Graſs. The root is tough, ſlender, white, and ſtrikes deep into the ground. The ſtalks are weak, but very tough, knotty, branching, and lie on the ground. The leaves are ſmall, and uſually ſpear-ſhaped; though in ſome varieties they are almoſt round, and in others narrow and acute. The flowers come out from the wings of the leaves, having no footſtalks; they are of a pale-reddiſh colour, are extremely ſmall, and appear from June to the end of autumn.

This ſpecies is a weed in all gardens, and extremely troubleſome in pavements and other places where the ſeeds have got poſſeſſion.

Medicinal properties of it.

This plant is deemed aſtringent; and the juice is ſaid to be good againſt ſpitting, vomiting, or evacuating blood, and other fluxes. It is alſo ſaid to be a vulnerary, but is now out of uſe for theſe purpoſes.

Water Pepper deſcribed.

2. Water Pepper, or Arſmart. The root is rough, white, and ſtrikes deep into the ground. The ſtalks are numerous, round, ſmooth, jointed, branching, and about a foot and a half long. The leaves are large, ſpear-ſhaped, ſmooth, grow ſingly at the joints, and are very hot and biting to the taſte. The flowers come out in ſpikes from the ends and ſides of the branches, are of a reddiſh colour, appear in July and Auguſt, and the ſeeds ripen in the autumn. This ſpecies alſo is a weed in gardens.

Medicinal uſes of it.

The leaves are very powerful in cleanſing old ulcers, and conſuming fungous fleſh, for which purpoſes they are much uſed by the farriers, &c. They are alſo good againſt ſcorbutic complaints, phlegmatic habits, and promoting the urinary diſcharge.

Deſcription of Dead Arſmart.

3. Dead or Spotted Arſmart. The ſtalks are thick, round, ſmooth, jointed, and two feet high. The leaves are large, ſpear-ſhaped, ſmooth, have a blackiſh or purpliſh mark almoſt in ſhape of a half-moon, and are diſpoſſeſſed of the biting quality of the former ſpecies. The flowers come out from the ends of the branches in ſhort, cloſe ſpikes; they are of a reddiſh colour, appear in July and Auguſt, and continue in ſucceſſion until the winter.

Medicinal virtues of it.

This plant grows common in moſt places, and is a weed in gardens. It is uſed in medicine as a vulnerary and antiſeptic; and a decoction of it in wine is ſaid to have great force in ſtopping gangrenes, and curing inflammations and hot ſwellings.

4. Pale

Deſcription of Pale

4. Pale Arſmart. The ſtalks are thick, angular, jointed, branching, and two feet and a half high. The leaves are large, ſpear-ſhaped, pointed, very pale, and grow ſingly at the joints. The flowers come out in looſe ſpikes from the ends and ſides of the branches, having rough, glutinous footſtalks; they are of a whitiſh colour, appear in Auguſt, and the ſeeds ripen in the autumn.

This ſpecies alſo is a native of England, but not ſo common as the other ſorts.

and Oriental Arſmart.

5. Oriental Arſmart. The ſtalk is thick, robuſt, upright, firm, jointed in the manner of Cane, and eight or ten feet high. The leaves are very large, and the lower ones are oval; but the upper ones are narrow, and pointed: They are hairy on both ſides, ſharp and acrid to the taſte, the lower ones having broad, ſtrong footſtalks, which half ſurround the ſtalk with their baſe, and grow alternately at the joints. The flowers are produced in ſpikes from the ends of the branches, are of a purple colour, ſometimes eight or ten inches in length, and, hanging with their points downward, have a beautiful appearance; they come out in the end of July or early in Auguſt, and continue beautiful until they are killed by the froſts, before which time ripe ſeeds from the firſt-blown flowers may be collected.

Variety.

There is a variety of this ſpecies with a longer and more hairy leaf, called Indian Arſmart.

They are both very beautiful garden-plants, and worthy of a place in every good collection of flowers, as well as for their extraordinary virtues, which are ſaid to be equal and ſimilar to thoſe of the Common Arſmart.

Deſcription of Upright

6. Upright *Polygonum*. The ſtalks are upright, herbaceous, and about two feet high. The lower leaves are of an oval figure, but the upper ones are narrow, and pointed; their upper ſide is a light-green colour, but they are paler underneath, and have many veins diverging from the midrib to the borders. The flowers come out in ſmall cluſters or ſpikes from the wings of the leaves, are of a whitiſh-red colour, appear in the end of July or early in Auguſt, and the ſeeds ripen in the autumn.

and Articulated Polygonum.

7. Articulated *Polygonum*. The root is ſmall, and fibrous. The ſtalk is upright, jointed, ſends forth branches alternately near the top, and grows to about a foot high. The leaves are narrow, ſmooth, and of a bright-green colour on their upper ſide, but paler underneath. The flowers form large panicles, and are collected in articulated ſpikes from the ends and ſides of the branches; they are of a pale fleſh-colour, appear in Auguſt, and continue in ſucceſſion until the froſt ſtops them.

Tartarian Helxine deſcribed.

8. Tartarian *Helxine*. The ſtalk is upright, ſmooth, jointed, and about a foot and a half high. The leaves are ſagittated, but inclined nevertheleſs to be heart-ſhaped; they are moderately large, of a good green colour on their upper ſide, but paler underneath, and grow on ſtrong footſtalks. The flowers come out in ſpikes from the ends and ſides of the ſtalks, and are of a white colour, having often a tinge of red or purple; they appear in Auguſt, and are ſucceeded by indented ſeeds, which ripen in the autumn.

Black Bindweed deſcribed.

9. Black Bindweed. The root conſiſts of ſeveral long, narrow, tough fibres. The ſtalks are ſlender, trailing, branching, and about a yard long. The leaves are heart-ſhaped, of a blackiſh-green colour, grow ſingly at the joints on footſtalks, and are very diſagreeably ſcented. The flowers are formed into panicles at the top of the plant, are ſmall, and greeniſh; they appear in June, and continue in ſucceſſion until winter. The ſeeds are three-ſided, and of a black colour.

Deſcription of Climbing,

10. Climbing Buckwheat of the Thickets. The ſtalk is ſlender, ſmooth, jointed, branching, and winds about trees, buſhes, or whatever is near it, to a great height. The leaves are heart-ſhaped, rounded at the baſe, and grow on footſtalks ſingly at the joints. The flowers come out in leafy ſpikes from the ends and ſides of the branches, are ſmall, and of a whitiſh-green colour, having often a tinge of red; they appear in July and Auguſt, and continue to ſhew themſelves until the froſts kill them.

American Climbing,

11. American Climbing Buckwheat. This hath a ſlender winding ſtalk, which is uſually of a reddiſh colour, twiſts about every thing that is near it, and, if ſupported, riſes to a great height. The leaves are heart-ſhaped, and grow on footſtalks, which have a pore or ſmall hole at the baſe. The flowers are ſmall and greeniſh, appear during the latter part of the ſummer and autumn, and the early ones are ſucceeded by black ſeeds, which ripen very well for a ſucceſſion.

and Common Buckwheat.

12. Common Buckwheat, or Brank. The ſtalk is herbaceous, round, ſmooth, upright, jointed, branching, and from a foot to a yard high, according to the nature of the ſoil in which it grows. The leaves are ſagittated, heart-ſhaped, pointed, ſmooth, ſoft, and ſome of them reſemble thoſe of Ivy; the lower ones grow on longiſh footſtalks, but the upper ones ſit cloſe to the ſtalks at the joints. The flowers come out in cluſters from the ends and ſides of the branches, are ſmall, and of a whitiſh colour, having for the moſt part a mixture of red or purple; they appear in July and Auguſt, and the ſeeds ripen in September.

Uſes thereof.

The leaves and young ſtalks are admirable food for cattle, when cut green, and afford abundance of milk to milch-cows. The ſeeds are excellent for feeding of pigeons, poultry, rabbits, hogs, cattle, &c. They alſo afford a flour, of which ſome cakes and a coarſe bread are made by the poor, and which is ſometimes improved to a good ſort of houſehold bread by a ſmall mixture of flour of wheat.

Culture of the firſt eight ſpecies.

The firſt four ſorts are weeds in gardens, riſing ſpontaneouſly from ſcattered ſeeds, and are always ſeduloully eradicated by the elegant and induſtrious Gardener. The fifth, ſixth, ſeventh, and eighth ſpecies, though natives of other countries, are propagated, or rather propagate themſelves, as freely in our gardens; for if the ſeeds are ſown in the autumn, they will flower and perfect their ſeeds the ſummer after, which, caſually falling to the ground, will often produce ſtronger and better plants than ſuch as have been raiſed from ſeeds regularly ſown in beds. After they come up, they will require no trouble, except thinning them to proper diſtances, which muſt be in proportion to their height, and keeping them clean from weeds.

Culture of the ninth,

The ninth ſpecies is a climbing plant, and grows common among corn in many parts of England. It will propagate itſelf, like the other ſpecies; but when the plants are about three inches high, they ſhould have ſticks thruſt by their ſides, to enable them to riſe, otherwiſe they will trail on the ground.

tenth, and eleventh ſpecies.

The tenth and eleventh ſpecies are taller climbers, and are to be raiſed like the others; but their ſituation ſhould be by the ſides of pales, or in the wilderneſs-quarters among the ſhrubs, having firſt made the mould very fine for the reception of the ſeeds. Here they will run over the pales, or climb up the ſhrubs or trees, ſhewing themſelves to a conſiderable diſtance; and they may be then made to form a variety with other climbing plants of a more durable nature.

Propagation of the twelfth ſpecies. The twelfth ſpecies is the Buckwheat, or Brank; an Annual that grows naturally in England, and in ſome places is raiſed in large quantities for the before-mentioned purpoſes of huſbandry. It will grow in any ſoil or ſituation, but thrives beſt in a light, dry, rich earth, that has been well ploughed, and made fine by good harrowing. The ſeeds will ripen in leſs than four months after ſowing; ſo that you need not be anxious about getting your ſeeds into the ground early in the ſpring. April or May are good months for the purpoſe; and if they are ſown in order to raiſe grain, they ſhould be ſown but thinly, one buſhel being ſufficient to ſow an acre. But if they are ſown with a deſign to raiſe a crop to be cut green, you cannot ſow them too thick; and three or four buſhels will not be too much for an acre. As they will then come up very cloſe, the ſtalks will be finer and more delicate, and they ſhould be cut juſt before they come into flower. Buckwheat is admirable for milch-cows and other cattle; and in dry ſeaſons, when the paſtures are parched and burnt up, this plant flouriſhes; and its value is much inhanced at ſuch times, when ſuſtenance for the flocks and herds is ſcarcely to be found.

Buckwheat is ſometimes ploughed-in like vetches, without mowing, in order to enrich the land, for which purpoſe it is ſaid to be excellent.

When Buckwheat is raiſed for the ſake of the grain, as ſoon as that is ripe it ſhould be cut, and lie in the field until it is well dried; when it ſhould be ſtacked up like other grain, and afterwards threſhed out for uſe.

Titles. Aviculare. 1. Common Knot-Graſs is titled, *Polygonum floribus octandris trigynis axillaribus, foliis lanceolatis, caule procumbente herbaceo.* Caſpar Bauhine calls it, *Polygonum latifolium*; alſo, *Polygonum brevi anguſtoque folio*; alſo, *Polygonum oblongo anguſto folio*; and John Bauhine, *Polygonum ſeu centinodia.* Dillenius names it, *Polygonum anguſtis foliis, calycibus purpuraſcentibus*; alſo, *Polygonum erectum humile, foliis orbum.* Petiver ſtiles it, *Polygonum folio rotundo*; and Gerard, *Polygonum mas vulgare.* It grows in England and moſt parts of Europe.

Hydropiper. 2. Water Pepper, or Arſmart, is, *Polygonum floribus hexandris ſemidigynis, foliis lanceolatis, ſtipulis ſubmuticis.* In the *Hortus Cliffort.* it is termed, *Perſicaria florum ſtaminibus ſenis, ſtylo bifido*; in the *Flora Suecia*, *Perſicaria floribus hexandris ſemidigynis*; in the *Mat. Med.* *Polygonum foliis lanceolatis, floribus hexandris ſemidigynis.* Caſpar Bauhine calls it, *Perſicaria urens, ſ. hydropiper*; John Bauhine, *Perſicaria vulgaris acris, ſ. hydropiper*; Gerard, *Hydropiper*; and Parkinſon, *Perſicaria vulgaris acris ſeu minor.* It grows naturally by waters in moiſt places in England and moſt parts of Europe.

Persicaria. 3. Dead or Spotted Arſmart is, *Polygonum floribus hexandris digynis, ſpicis ovato-oblongis, foliis lanceolatis, ſtipulis ciliatis.* In the *Flora Suecia* it is termed, *Perſicaria floribus hexandris digynis*; in the *Hortus Cliffort.* *Perſicaria florum ſtaminibus ſenis, ſtylo duplici.* Caſpar Bauhine calls it, *Perſicaria mitis maculoſa & non maculoſa*; alſo, *Perſicaria anguſtifolia*; John Bauhine, *Perſicaria mitis*; Haller, *Perſicaria foliis anguſtiſſimis penè glabris, ſpinis interruptis rariſſimis, vaginis ciliaribus*; alſo, *Perſicaria foliis ſubtùs tomentoſis*; Tournefort, *Perſicaria folio ſubtùs incano*; and Ray, *Perſicaria latifolia geniculata, caulibus maculatis*; alſo, *Perſicaria maculoſa procumbens, foliis ſubtùs incanis.* It grows common in England and moſt parts of Europe.

4. Pale Arſmart is, *Polygonum octandris digynis, pedunculis hiſpidis, foliis lanceolatis, ſtipulis muticis.* Ray calls it, *Perſicaria mitis major, foliis pallidioribus.* It grows naturally in England and Penſylvania. Pensylvanicum.

5. Oriental Arſmart is, *Polygonum floribus heptandris digynis, foliis ovatis, caule erecto, ſtipulis hirtis hypocrateriformibus.* In the *Hortus Cliffort.* it is termed, *Perſicaria florum ſtaminibus ſex pluribuſque, ſtylo duplici*; in Miller's Dict. *Perſicaria foliis ovato-lanceolatis acutis, floribus pentandris, caule erecto.* Tournefort calls it, *Perſicaria Orientalis, nicotianæ folio, calyce florum purpureo.* It grows naturally in the Eaſt. Orientale.

6. Upright *Polygonum* is, *Polygonum floribus octandris trigynis axillaribus, foliis ovalibus, caule erecto herbaceo.* It is a native of Philadelphia. Erectum.

7. Articulated *Polygonum* is, *Polygonum floribus octandris trigynis, ſpicis articulatis paniculatis, ſtipulis vaginantibus truncatis.* It is a native of Canada. Articulatum.

8. Tartarian *Helxine* is, *Polygonum foliis cordato-ſagittatis, caule inermi erecto, ſeminibus ſubdentatis.* In the *Hortus Cliffort.* it is termed, *Helxine caule erecto inermi, foliis cordato-ſagittatis, ſeminum angulis dentatis*; in the *Hortus Upſal.* *Helxine caule erectiuſculo inermi, foliis cordato-ſagittatis, ſeminibus ſubdentatis.* It is a native of Tartary. Tataricum.

9. Black Bindweed is, *Polygonum foliis cordatis, caule volubili, floribus planiuſculis.* In the *Flora Lapp.* it is termed, *Helxine caule volubili.* Caſpar Bauhine calls it, *Convolvulus minor, ſemine triangulo*; John Bauhine, *Helxine ſemine triangulo*; Dodonæus, *Convolvulum nigrum*; Ray, *Fagopyrum ſcandens ſylveſtre*; Gerard, *Volubilis nigra*; and Parkinſon, *Convolvulus minor, atriplicis folio.* It grows in cultivated places in England and moſt parts of Europe. Convolvulus.

10. Climbing Buckwheat of the Thickets is, *Polygonum foliis cordatis, caule volubili lævi, floribus carinato-alatis.* Dillenius calls it, *Fagopyrum prælongum Dumetorum, ſeminibus alatis duplici more diſpoſitis*; Haller, *Fagopyrum ſcandens altiſſimum Dumetorum, ſeminibus tribus, alis pellucidis*; and Vaillant, *Fagopyrum majus ſcandens.* It inhabits ſhady woods in moſt of the ſouthern countries of Europe. Dumetorum.

11. American Climbing Buckwheat is, *Polygonum foliis cordatis, caule erecto ſcandente, petiolis baſi ſubtùs poro pertuſis.* In the *Syſtema Naturæ* it is termed, *Polygonum foliis cordatis, caule volubili, floribus carinatis.* Tournefort calls it, *Fagopyrum ſcandens Americanum maximum*; Gronovius, *Fagopyrum ſcandens, caule rubente, ſemine nigro*; Plukenet, *Fagotriticum volubile majus Virginianum*; and Sloane, *Fagopyrum ſcandens, ſ. volubilis nigra major, flore & fructu membranaceis compreſſis.* It grows naturally in America. Scandens.

12. Common Buckwheat is, *Polygonum foliis cordato-ſagittatis, caule erectiuſculo inermi, ſeminum angulis æqualibus.* In the *Hortus Cliffort.* it is termed, *Helxine caule erectiuſculo inermi, foliis cordato-ſagittatis*; in the *Hortus Upſal.* *Helxine caule erectiuſculo inermi, foliis cordato-ſagittatis, ſeminibus integerrimis*; in the *Mat. Med.* *Polygonum caule erectiuſculo inermi ramoſo, foliis cordato-ſagittatis, ſeminibus integerrimis.* Caſpar Bauhine calls it, *Eryſimum cereale, folio hederaceo*; Tabernæmontanus, *Ocymum cereale*; Gerard, &c. *Fagopyrum.* It grows naturally in ſome of our corn-fields, and in many parts of Aſia. Fagopyrum.

CHAP. CCLXX.

POLYPREMUM, CAROLINA FLAX.

THERE is one ſpecies of this genus, called Carolina Flax.

The plant deſcribed. The ſtalk is round, ſtriated, branching, but weak, and requires ſupport. The leaves are long, narrow, and hoary underneath. The flowers are produced from the extremities of the branches in July and Auguſt, and the ſeeds ripen in September and October.

Culture. This plant is propagated by ſowing the ſeeds, in beds of common mould made fine, either in the autumn or ſpring; and when the plants come up, they will require no trouble, except thinning them where they are too cloſe, and keeping them clean from weeds.

Titles. Procumbens. There being no other ſpecies belonging to this genus, it is termed, ſimply, *Polypremum.* Petiver calls it, *Linum Carolinianum.* It rows naturally in Carolina and Virginia.

Claſs and order in the Linnæan Syſtem. The characters. *Polypremum* is of the claſs and order *Tetrandria Monogynia*; and the characters are,

1. CALYX is a permanent perianthium compoſed of four ſpear-ſhaped, carinated leaves, which are coloured on their inſide.

2. COROLLA is one rotated petal, having a limb divided into four oboval ſegments, which are the ſame length as the calyx.

3. STAMINA are four very ſhort filaments in the mouth of the flower, having roundiſh antheræ.

4. PISTILLUM conſiſts of an obcordated germen, a ſhort permanent ſtyle, and a truncated ſtigma.

5. PERICARPIUM is an oval, compreſſed, emarginated capſule, formed of two valves, and containing two cells.

6. SEMINA. The ſeeds are numerous.

CHAP. CCLXXI.

PORTULACA, PURSLANE.

BESIDES the Purſlane of our kitchen-gardens, there are two other Annuals of this genus, which ſometimes gain admittance into the flower-garden. Theſe are called,

Species.
1. Hairy-jointed Purſlane.
2. Small Jamaica Purſlane.

Deſcription of Hairy-jointed 1. Hairy-jointed Purſlane. The ſtalk of this ſpecies is ſucculent, branching, and of a purple colour: The lower branches are procumbent, but the upper are more erect. The leaves are narrow, awl-ſhaped, of a ſhining-green colour, and are placed alternately on the branches. At the joints of the ſtalks the tufts of hairs are produced, which are white; and between theſe, and at the ends of the branches, grow the flowers, which have no fooſtalks, are of a pink or delicate red colour, and of ſhort duration, but will continue in ſucceſſion from June to September or October. The capſules that ſucceed them are ſhort, roundiſh, and the ſeeds are ſmall, and of a black colour.

and Jamaica Purſlane. 2. Small Jamaica Purſlane The ſtalk is erect, and ſends forth numbers of branches near the top. The leaves are oblong, ſucculent, and downy. The flowers grow from the ends of the branches in roundiſh heads, have two-leaved cups, and ſit cloſe, without any footſtalks; they will be in blow in July, and are ſucceeded by oval capſules containing the ſeeds, which are very ſmall.

Method of propagation. Theſe ſpecies are eaſily raiſed by ſowing the ſeeds on a moderate hot-bed in March. When the plants come up, you muſt give them a gentle ſprinkling of water, and muſt afford them as much air as the weather will permit; for without this they will ſoon turn yellow, draw up weak, and are ſcarcely ever to be recovered. When they get older, harden them more and more to the open air, keep them clean from weeds, water them as often as you find it neceſſary, and about the end of May, or the beginning of June, plant them out in ſome warm border, with a ball of earth to the roots. In a month or ſix weeks after they will flower, and in favourable ſeaſons will perfect their ſeeds.

Titles. Pilosa. 1. The Hairy-jointed Purſlane is titled, *Portulaca foliis ſubulatis alternis, axillis piloſis, floribus ſeſſilibus terminalibus.* Van Royen calls it, *Portulaca foliis linearibus acutis, caule procumbente piloſo*; Commeline, *Portulaca Curaſſavica, anguſto longo lucidoque folio, procumbens*; Herman, *Portulaca Curaſſavica lanuginoſa procumbens*; Plukenet, *Portulaca lanuginoſa procumbens, vermiculatæ foliis, Americana.* It grows naturally in America.

Halimoides. 2. Small Jamaica Purſlane is, *Portulaca foliis oblongis carnoſis, caule corymboſo, floribus ſeſſilibus.* Sloane calls it, *Portulaca erecta, ſedi minoris facie, capitulo tomentoſo*; Brown, *Halimus minimus, foliis oblongis ſucculentis tumentibus, ſummis ramulis denſiſſimè ſitis.* It grows naturally in Jamaica.

Claſs and order in the Linnæan Syſtem. The characters. *Portulaca* is of the claſs and order *Dodecandria Monogynia*; and the characters are,

1. CALYX is a ſmall, bifid, permanent perianthium,

thium, compreſſed at the top, and ſituated upon the germen.

2. Corolla conſiſts of five plane, erect, obtuſe petals, that are larger than the calyx.

3. Stamina conſiſt of very many capillary filaments, about half the length of the corolla, with ſimple antheræ.

4. Pistillum conſiſts of a roundiſh germen, a ſhort, ſimple ſtyle, and five oblong ſtigmas the length of the ſtyle.

5. Pericarpium is an oval, covered capſule of one cell.

6. Semina. The ſeeds are many, and ſmall.

CHAP. CCLXXII.

POTENTILLA, CINQUEFOIL.

Species.

THE ſhort-lived ſpecies of *Potentilla* are,

1. Montpelier Cinquefoil.
2. Norway Cinquefoil.
3. Grand-flowered Cinquefoil.
4. Supine Cinquefoil.

Deſcription of Montpelier,

1. Montpelier Cinquefoil. This ſpecies is often called Stalky Alpine Barren Strawberry. The ſtalks are upright, jointed, very hairy, branching, and about a foot high. The leaves are trifoliate, oblong, and ſerrated on their edges. The flowers come out on footſtalks, which ariſe above the joints of the ſtalks; they are of a white colour, reſemble thoſe of the Strawberry plant, appear in June and July, and the ſeeds ripen in the autumn.

Norway,

2. Norway Cinquefoil. The ſtalk is upright, dichotomous, and about a foot high. The leaves are trifoliate; and the folioles are ſpear-ſhaped, hairy, and cut and indented on their edges. The flowers come out in roundiſh bunches from the wings of the ſtalks, are of a yellow colour, appear in June and July, and the ſeeds ripen in the autumn.

Grand-flowered,

3. Grand-flowered Cinquefoil. The ſtalks are partly procumbent, of a browniſh colour, and about a foot long. The leaves are trifoliate, hairy on both ſides, and indented on their edges. The flowers are very large, of a fine-yellow colour, appear in June and July, and the ſeeds ripen in the autumn.

and Supine Cinquefoil.

4. Supine Cinquefoil. The ſtalk is hairy, divides by pairs, is ſix or eight inches long, and lies on the ground. The leaves are pinnated; the folioles are about four pair terminated by an odd one, and are hairy and whitiſh underneath. The flowers come out from the wings of the ſtalks on ſlender footſtalks, appear in June and July, and the ſeeds ripen in the autumn.

Culture.

The ſeeds of all theſe ſpecies ſhould be ſown as ſoon as they are ripe, or the ſpring following. When the plants come up, they will require no trouble, except thinning them where they are too cloſe, and keeping them clean from weeds; and after they have once flowered and ſcattered their ſeeds, plants for a ſucceſſion will ſpontaneouſly ariſe.

Titles.

Monspeliensis,

1. Montpelier Cinquefoil is titled, *Potentilla foliis ternatis, caule ramoſo erecto, pedunculis ſupra genicula enatis.* Moriſon calls it, *Pentaphylloides majus erectum, flore luteo*; Magnol, *Pentaphylloides fragariæ folio*; and Boerhaave, *Fragaria ſterilis Alpina cauleſcens.* It grows naturally near Montpelier.

Norvegica,

2. Norway Cinquefoil is, *Potentilla foliis ternatis, caule dichotomo, pedunculis axillaribus.* In the *Flora Suecia* it is termed, *Potentilla foliis ternatis, caule corymboſo erecto*; in the *Flora Lappon. Potentilla foliis ternatis inciſis, caule diffuſo.* Loeſel calls it, *Quinquefolium hirſutum luteum paucioribus laciniis.* It grows naturally in Norway, Sweden, Germany, and in Canada.

Grandiflora,

3. Grand-flowered Cinquefoil is, *Potentilla foliis ternatis dentatis utrinquè ſubpiloſis, caule decumbente foliis longiore.* Haller calls it, *Potentilla foliis ternatis, petalis cordatis luteis*; and Vaillant, *Fragaria ſterilis, ampliſſimo folio & flore, petalis cordatis.* It grows naturally in Helvetia, Siberia, and the Pyrenees.

Supina,

4. Supine Cinquefoil is, *Potentilla foliis pinnatis, caule dichotomo decumbente.* Plukenet calls it, *Pentaphyllum Alpinum minus ſupinum*; Cluſius, *Pentaphyllum ſupinum quorundam, potentillæ facie*; and Caſpar Bauhine, *Quinquefolio fragifero affinis.* It grows naturally in Siberia.

CHAP. CCLXXIII.

QUERIA.

OF this genus there is one Annual, called Spaniſh *Queria*.

The plant deſcribed. The ſtalk is ſlender, upright, firm, but brittle, and eight or ten inches high. The leaves are narrow, and of a whitiſh colour. The flowers come out in ſmall cluſters from the tops of the ſtalks, attended with briſtly, hooked bracteæ; they are ſmall, of a whitiſh-green colour, appear in July and Auguſt, and are ſucceeded by ſingle, roundiſh, compreſſed ſeeds, which ripen in the autumn.

Culture. This plant is propagated by ſowing the ſeeds on a ſlight hot-bed in the ſpring. When the plants come up, they muſt have water and much air, to prevent their drawing weak. In May they will be fit to remove; when, on a moiſt day, or, for want thereof, on ſome evening, they muſt be taken up, with a ball of earth to each root, and ſet in the places where they are deſigned to remain.

Titles. This ſpecies is entitled, *Queria floribus confertis*. Lœfling calls it, *Queria Hiſpanica, bracteis patulis hamatis*. It grows naturally in Spain. Hispanica.

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CHAP. CCLXXIV.

RANUNCULUS, CROWFOOT.

OF this genus there are a few inſignificant Annuals, called,

Species.
1. Corn Crowfoot.
2. Small-flowered Crowfoot.
3. Falcated Crowfoot.
4. Prickly-ſeeded Marſh Crowfoot.
5. Round-leaved Marſh Crowfoot.

Deſcription of Corn, 1. Corn Crowfoot. The ſtalk is upright, ſmooth, branching, and a foot and a half high. The leaves are divided into many narrow parts, are ſmooth, of a thickiſh ſubſtance, and a light-green colour. The flowers come out from the ends and ſides of the branches on long, ſlender footſtalks; they are ſmall, of a yellow colour, and appear chiefly in June.

Small-flowered, 2. Small-flowered Crowfoot. The ſtalks are ſlender, weak, hairy, diffuſe, and lie on the ground. The leaves are ſimple, hairy, and deeply cut or jagged on their edges. The flowers are very ſmall, yellow, and appear in May and June.

Falcated, 3. Falcated Crowfoot. This ſpecies hath a ſmall, fibrous root, ſending forth a few leaves, which are compoſed of many ſlender, branching parts. The ſtalks are naked, and four or five inches high. The flowers come out ſingly from the tops of the ſtalks, are of a yellow colour, appear in May and June, and are ſucceeded by falcated ſeeds, which ripen in July and Auguſt.

Prickly-ſeeded, 4. Prickly-ſeeded Marſh Crowfoot. The ſtalks are diffuſe, ſmooth, and partly procumbent. The leaves are broad, and compoſed of three obtuſe lobes, which are ſmooth, and indented on their edges. The flowers come out from the wings of the leaves on long, ſlender footſtalks; they appear in May and June, and are ſucceeded by prickly ſeeds, which ripen in Auguſt.

and Round-leaved Crowfoot. 5. Round-leaved Marſh Crowfoot. The ſtalks are branching, and about a foot high. The lower leaves are palmated, roundiſh, and indented on their edges; the upper leaves are digitated, ſmooth, and of a lucid-green colour. The flowers come out from the ends and ſides of the branches on longiſh footſtalks; they are ſmall, of a pale-yellow colour, appear in May and June, and are ſucceeded by ripe ſeeds in July and Auguſt.

Culture. The firſt three ſpecies grow naturally in corn-fields in moſt parts of Europe; the laſt two ſorts riſe out of the mud in ditches, and grow common in marſhes and moiſt places. None of them are cultivated plants; nevertheleſs, if a perſon is deſirous of having a few of each ſpecies to be ready for obſervation, he may ſow the ſeeds in any out-corner of the garden ſoon after they are ripe, and the ſummer following they will flower. Care muſt be taken to cut up the greateſt part of them before the ſeeds are ripe; otherwiſe theſe will ſcatter, and become troubleſome weeds all over the garden.

Titles. 1. Corn Crowfoot is titled, *Ranunculus ſeminibus aculeatis, foliis ſuperioribus decompoſitis linearibus*. Caſpar Bauhine calls it, *Ranunculus arvenſis echinatus*; Dodonæus, *Ranunculus ſylveſtris III.* and Gerard and Parkinſon, *Ranunculus arvorum*. It grows naturally among the corn in England and moſt of the ſouthern countries of Europe. Arvensis.

2. Small-flowered Crowfoot is, *Ranunculus ſeminibus muricatis, foliis ſimplicibus laciniatis acutis hirſutis, caule diffuſo*. Plukenet calls it, *Ranunculus hirſutus annuus, flore minimo*. It grows naturally in ſome of our cultivated fields, and in moſt of the ſouthern parts of Europe. Parviflorus.

Falcatus. 3. Falcated Crowfoot is, *Ranunculus foliis fili-formi-ramoſis, ſeminibus falcatis, ſcapo nudo unifloro.* In the *Hortus Cliffort.* it is termed, *Myoſuros foliis ramoſis.* Caſpar Bauhine calls it, *Melampyrum luteum minimum*; Moriſon, *Ranunculus ceratocephalus, ſeminibus falcatis in ſpicam adactis*; and Boccone, *Ranunculus alopecuroides, ajugæ foliis.* It grows naturally among the corn in the ſouth of Europe, and in the Eaſt.

Muricatus. 4. Prickly-ſeeded Marſh Crowfoot is, *Ranunculus ſeminibus aculeatis, foliis ſimplicibus lobatis obtuſis glabris, caule diffuſo.* Caſpar Bauhine calls it, *Ranunculus paluſtris echinatus*; and Alpinus, *Ranunculus Creticus echinatus latifolius.* It grows naturally in ditches and moiſt places in moſt of the ſouthern countries of Europe.

5. Round-leaved Marſh Crowfoot is, *Ranunculus foliis inferioribus palmatis, ſummis digitatis, fructibus oblongis.* Caſpar Bauhine calls it, *Ranunculus paluſtris, apii folio, lævis*; and Dodonæus, *Ranunculus ſylveſtris I.* It grows naturally in moiſt places in England and moſt countries of Europe. Sceleratus.

C H A P. CCLXXV.

RAPHANUS, RADISH.

OF this genus there is a well-known Annual, called Jointed-podded Charlock. The varieties of it go by the reſpective names of,

Varieties of this plant.

The White Charlock.
The Gold and White-flowered Charlock.
The Black-ſtriped Charlock.
The Purple Charlock.

Deſcription of them.

All theſe are varieties of that common Annual called Jointed-podded Charlock. The leaves are long, narrow, and much cut on their edges. The ſtalks are ſlender, rough, branching, and about two feet high. The flowers come out in plenty from the upper parts of the plant; they are ſmall, appear in June and July, and are ſucceeded by jointed pods containing ripe ſeeds in Auguſt.

Culture.

In order to continue theſe ſorts, great care muſt be taken in ſowing the ſeeds, and ſtationing them, at firſt, at a good diſtance from each other. Let the ſorts, therefore, be ſown in ſeparate parts of the garden; and let the bad-coloured ones be carefully pulled up at their firſt opening, and thoſe only of the true colours of the reſpective ſorts be ſaved for ſeeds. With this care the ſorts may be continued and improved. The beſt time for ſowing the ſeeds is in the autumn, ſoon after they are ripe.

Titles. Rhaphanistrum.

This Charlock is titled, *Raphanus ſiliquis teretibus articulatis lævibus unilocularibus.* Caſpar Bauhine calls it, *Rapiſtrum flore luteo*; alſo, *Rapiſtrum flore albo, ſiliquâ articulatâ*; alſo, *Rapiſtrum flore albo lineis nigris depictis*; and John Bauhine, *Rapiſtrum flore albo ſtriato.* It grows naturally among corn in moſt countries of Europe.

Claſs and order in the Linnæan Syſtem. The characters.

Raphanus is of the claſs and order *Tetradynamia Siliquoſa*; and the characters are,

1. Calyx is a perianthium compoſed of four erect, oblong, parallel, connivent, deciduous leaves, that are gibbous at their baſe.

2. Corolla is cruciform, and compoſed of four obcordated, patent petals, with ungues rather longer than the calyx.

There are four melliferous glands, two of which are placed between the ſhort ſtamina and the piſtil, and the other two between the long ſtamina and the calyx.

3. Stamina. There are ſix erect, awl-ſhaped filaments, of which the two oppoſite ones are the length of the calyx, and the other four are the length of the claws of the corolla. Their antheræ are ſimple.

4. Pistillum conſiſts of an oblong, ventricoſe, attenuated germen the length of the ſtamina, ſcarcely any ſtyle, and a capitated, entire ſtigma.

5. Pericarpium is a gibbous, oblong, ſmooth, and almoſt jointed pod.

6. Semina. The ſeeds are roundiſh, and ſmooth.

C H A P.

CHAP. CCLXXVI.

RESEDA, BASTARD ROCKET.

THE ſpecies of this genus are very ſeldom cultivated, except one (and that has been but lately introduced into our gardens) which is a native of Egypt, and called Ægyptian Mignionette, though its proper name is,

Species.

1. Sweet *Reſeda*.

The other Annuals are,

2. Common Baſtard Rocket.
3. Leſſer Baſtard Rocket.
4. White French Baſtard Rocket.
5. Weld, Wild Woad, or Dyer's Weed.

Sweet Reſeda deſcribed.

1. The Sweet *Reſeda* has ſeveral branching, weak, ſlender ſtalks, which lie flat on the ground. The length of them is uncertain; for in ſome gardens they ſeldom grow longer than to about a foot, whereas in others they will run out to more than a yard in length. The leaves are of uncertain figure; ſome being oblong; others roundiſh, with their edges entire; while a third ſort is compoſed of three diſtinct lobes. The flowers garniſh the ends of the branches for a great length, and are of a greeniſh-white colour, having reddiſh antheræ; their cups are very large; and the footſtalks, by which they are ſupported, are, in proportion to the ſize of the flowers, pretty long. In ſhort, theſe plants have no great beauty to engage our attention; but the agreeable odour that is continually emitted from their flowers, enhances their value, and cauſes them to be much admired. They flower in ſummer, and will continue the ſucceſſion until the froſt ſtops them; during which time, from the ſame ſpike that is in full blow, good ſeeds may be collected for a ſucceſſion.

Deſcription of Common,

2. Common Baſtard Rocket. Of this ſpecies there are two remarkable varieties, one of which is called the Engliſh Baſtard Rocket, the other the French Baſtard Rocket; though they both grow naturally on poor and chalky ground in many parts of England. The ſtalks of both are upright, channelled, branching, and will grow to about a foot and a half high. The leaves are trifid, or winged; thoſe of the French ſort are curled and indented at their edges. The flowers terminate the branches in long, looſe ſpikes; they are of a pale yellow colour, blow in June and July, and ripen their ſeeds in September. This plant is a Biennial.

Leſſer,

3. Leſſer Baſtard Rocket. This is an Annual plant, poſſeſſed of a fleſhy tap-root running deep into the ground. From this tap-root proceed a few weak, branching ſtalks, about a foot long, which, unleſs ſupported, will lie on the ground. The leaves are ſmall, and wedge-ſhaped; ſome of them are entire, and others are compoſed of three lobes. The flowers terminate the branches in long, looſe ſpikes, growing on moderately long footſtalks; their colour is white; and they have very large cups, that are deeply cut into ſix parts. They will be in blow in July, and will ripen their ſeeds in September.

and White French Baſtard Rocket.

4. White French Baſtard Rocket. This ſpecies is a Biennial. The ſtalks riſe to two feet high. The leaves are pinnated, large, and of a greyiſh colour. The flowers grow in ſpikes at the tops of the ſtalks, are of a white colour, will be in blow in June, and will ripen their ſeeds in September.

Varieties.

There are two or three varieties of this ſpecies, differing a little in the ſegments of the leaves, and the compactneſs of the ſpikes of flowers, the one being much longer and looſer than the other.

Weld deſcribed.

5. Weld, Wild Woad, or Dyer's Weed. This plant is what is uſed in dying, and is often called Dyer's Weed, Weld, or Yellow Weed. It is a Biennial, and grows naturally in many parts of England. The ſtalks riſe to a yard in height. The leaves are ſpear-ſhaped, have their edges entire, are often a little waved, obtuſe-pointed, about four inches in length, half an inch in breadth, and on the whole very much reſemble the leaves of the Willow-tree. The flowers terminate the ſtalks in long, looſe ſpikes; they are of a yellow colour, will be in blow in June, and ripen their ſeeds in September.

This is, without doubt, the plant with which the ancient Britons painted themſelves. It grows naturally in many parts of Britain, is eaſy to be obtained, and its colouring is ſtrong, and well adapted for the purpoſe; whereas the Common Cultivated Woad, which is generally ſuppoſed to have been the plant, is not a native of this country: We had it firſt of all from the Baltic; and though it is now propagated with us in ſuch amazing quantities, it was, doubtleſs, unknown to the ancient Britons.

Culture.

All theſe ſpecies are exceeding eaſy of culture. Sow the ſeeds in a bed of any common mould, and the plants will come up, flower, perfect their ſeeds, ſcatter them abroad, and produce a ſucceſſion without further trouble.

But more particularly with regard to the Biennials, they ſhould be ſown in May; and where the plants come up too cloſe, they ſhould be thinned to proper diſtances; by which treatment they will flower ſtrong the ſummer following.

Management of Sweet Reſeda particularly.

With reſpect to the Sweet *Reſeda*, or Mignionette, this plant ſhould be ſown on a moderate hot-bed, in March, or the beginning of April; and there it ſhould remain, without removal, until all danger of bad weather is over. Then, on the firſt moiſt day that happens, let the plants be taken up by bunches; and let a ſmall bunch, conſiſting of many roots, with as much mould about them as poſſible, be ſet in the ſpot intended for the purpoſe. This muſt be repeated, until your plants are all taken out of the hot-bed; obſerving, nevertheleſs, to ſet ſome in pots, to be placed near windows and in rooms, for the ſake of their fragrance. Plants that are thus ſet out in the full-ground, without ever being pricked out into a ſecond hot-bed, will grow amazingly, extend themſelves every way, and often cover a ſpace of more than a yard diameter; the flowers will be numerous, and you will be conſtantly regaled by the agreeable, inoffenſive ſweets, that are continually emitted from them. And though it be recommended to ſet a few of theſe plants in pots, to be placed near windows, &c. the beſt way will be, if there is the conveniency of a border of mould near at hand, to ſet the plants in that border; for ſuch plants will emit a more heightened odour, and you will partake of their bounty in greater plenty, than if they were in pots, or nearer at hand; for the ſenſation is greater from the circumambient air at a diſtance.

If theſe plants are raiſed in May in pots, plunged up to the rims in common garden-mould, and in October theſe pots be removed into the green-houſe, the plants will continue to flower all winter and the ſpring following, and will greatly felicitate thoſe places by their rich perfumes.

The Wild Woad, Dyer's Weed, or Weld, may be cultivated to national advantage, particularly as it grows well upon poor ſoils, and in ſuch places where the Common Cultivated Woad will not flouriſh.

Cultivation of the Wild Woad.

In order, therefore, to raiſe a crop of theſe plants for uſe, if the land is naturally good, a crop of barley may be firſt obtained; but if it is not ſo, no crop ſhould precede the Wild Woad, to exhauſt the little ſtrength of the land; for tho' the plants will grow and thrive very well on poor ground, yet they flouriſh beſt on a rich ſoil. In either caſe, let the ground be well ploughed and harrowed; and in the beginning of Auguſt, or as ſoon as the crop of barley can be cleared off, and the ground prepared, ſow your ſeed evenly, allowing a gallon thereof to one acre of land. The autumnal rains will ſoon bring up the plants; and when they are of ſize to be diſtinguiſhed from the weeds, they ſhould be hoed, leaving the plants at about ſix inches aſunder, if the land is rich; if poor, the plants ſhould not be thinner than about four inches from each other. This work ſhould always be done in dry weather, to kill the weeds as they are hoed up. In the ſpring, as you find the weeds ariſe, there muſt be a ſecond hoeing to deſtroy them; and, if neceſſary, a third; which will keep the ground clean for the whole ſeaſon. When the Weld begins to flower, it ſhould then be pulled for uſe; and after it has lain until it is dry enough, it ſhould be bound up in bundles, and laid in a barn, or ſome airy place.

A ſufficient quantity ſhould be left ſtanding for the ſake of the ſeeds; and theſe plants, beſides affording their ſeeds, ſhould be preſerved like the others, though they are of much inferior value.

After the Weld is entirely taken off, the ground may be ploughed, and ſown with Wheat; or it may be let alone, to be ſown with Barley and Oats in the ſpring following.

Titles.

1. The Sweet *Reſeda*, or Ægyptian Mignionette, is titled, *Reſeda foliis integris trilobiſque, calycibus florem æquantibus.* In Miller's Dict. it is termed, *Reſeda foliis integris trilobiſque, floribus tetragynis.* Haller calls it, *Reſeda foliis integris, floribus odoratis.* It grows naturally in Ægypt. Odorata.

2. Common Baſtard Rocket is, *Reſeda foliis omnibus trifidis, inferioribus pinnatis.* Caſpar Bauhine calls it, *Reſeda vulgaris*; John Bauhine, *Reſeda lutea*; Boccone, *Reſeda Gallica criſpa*; and Plukenet, *Reſeda Maſſilienſis, foliis latioribus criſpis.* It grows naturally in England, and in many parts of Europe. Lutea.

3. Leſſer Baſtard Rocket is, *Reſeda foliis integris trilobiſque, calycibus ſexpartitis maximis.* Tournefort calls it, *Reſeda minor vulgaris*; Caſpar Bauhine, *Reſedæ affinis Phyteuma*; and Columna, *Erucago Apula trifida quinquefolia.* It grows naturally in Italy and in the Eaſt. Phyteuma.

4. White French Baſtard Rocket is, *Reſeda foliis pinnatis, floribus tetragynis, calycibus ſexpartitis.* In the *Hortus Cliffort.* it is termed, *Reſeda foliis pinnatis integerrimis.* Caſpar Bauhine calls it, *Reſeda maxima.* It grows naturally near Montpelier in France, alſo in Spain. Alba.

5. Weld, Wild Woad, or Dyer's Weed, is titled, *Reſeda foliis lanceolatis integris, calycibus quadrifidis.* In the *Hortus Cliffort.* it is termed, *Reſeda foliis ſimplicibus lanceolatis integris.* Caſpar Bauhine calls it, *Luteola herba ſalicis folio*; and Dodonæus, *Lutum herba.* It grows naturally on old walls, by the ſides of ways and ſterile places, in England and moſt parts of Europe. Luteola.

CHAP CCLXXVII.

RHINANTHUS, ELEPHANT'S HEAD.

THIS genus affords us the following Annuals, viz.

Species.

1. Common Yellow Rattle, Louſewort, or Coxcomb.
2. Italian Elephant's Head.
3. Oriental Elephant's Head.
4. *Trixago*, or Large-flowered French Rattle.

Common Yellow Rattle deſcribed.

1. Common Yellow Rattle, Louſewort, or Coxcomb. The ſtalk is round, firm, branching, and a foot high. The leaves are oblong, crenated, and of a dark-green colour. The flowers come out in ſpikes from the tops of the ſtalks, are ſmall, of a yellow colour, appear in June and July, and the ſeeds ripen in July and Auguſt.

Deſcription of Elephant's Head and Oriental Elephant's Head.

2. Italian Elephant's Head. The ſtalk is upright, ſquare, hairy, and a foot and a half high. The leaves are oblong, hairy, and grow oppoſite to each other on the ſtalks. The flowers come out from the wings of the leaves along the upper parts of the ſtalks; they are of a yellow colour, appear in July, and the ſeeds ripen in Auguſt.

3. Oriental Elephant's Head riſes with an upright, ſquare, hairy, hollow ſtalk, to about the ſame height with the former ſpecies. The leaves are oblong, crenated, hairy, and grow oppoſite to each other on ſhort footſtalks. The flowers come out in ſpikes from the tops of the ſtalks, are of a yellow colour, appear in July, and the ſeeds ripen in the autumn.

4. *Trixago*,

Trixago deſcribed. 4. *Trixago*, or Large-flowered French Rattle. The ſtalk is undivided, and a foot and a half high. The leaves are ſpear-ſhaped, obtuſely-ſerrated, and grow oppoſite to each other on the ſtalks. The flowers are produced in ſpikes from the tops of the ſtalks, are moderately large, of a yellow colour, appear in July, and the ſeeds ripen in Auguſt.

Culture. The firſt ſpecies is that well-known Annual which riſes with the hay-graſs in almoſt every part of England; and is never cultivated. The others are raiſed by ſowing the ſeeds in the autumn ſoon after they are ripe, or the ſpring following, in the places where they are deſigned to remain; and when they come up, they will require no trouble, except thinning them where they are too cloſe, keeping them clean from weeds, and watering them in dry weather.

Titles. Crista galli. 1. The firſt ſpecies is titled, *Rhinanthus corollarum labio ſuperiore compreſſo breviore.* Caſpar Bauhine calls it, *Pedicularis pratenſis lutea, ſ. criſta galli*; alſo, *Criſta galli anguſtifolia montana*; John Bauhine, *Criſta galli mas*; Gerard, *Criſta galli*; Parkinſon, *Pedicularis ſ. criſta galli lutea*; and Ray, *Pedicularis major anguſtifolia ramoſiſſima, flore minore luteo, labello purpureo.* It grows naturally in meadows and paſtures in England and moſt countries of Europe.

Elephas. 2. The ſecond ſpecies is, *Rhinanthus corollis labio ſuperiore ſubulato recto.* Tournefort calls it, *Elephas Italica, flore magno, proboſcide ſurrectâ*; Columna, *Elephas Campoclarenſium*; Moriſon, *Euphraſia lutea, floribus elephantis caput cum proboſcide referentibus*; and Caſpar Bauhine, *Scordio affinis elephas ob florem.* It grows naturally in ſhady places in Italy.

Orientalis. 3. The third ſpecies is, *Rhinanthus corollis labio ſuperiore ſubulato incurvo.* Tournefort calls it, *Elephas Orientalis, flore magno, proboſcide incurvâ.* It grows naturally in the Eaſt.

Trixago. 4. The fourth ſpecies is, *Rhinanthus calycibus hirſuto-tomentoſis, foliis obtuſè ſerratis, caule ſimpliciſſimo.* In the former edition of the *Species Plantarum* it is termed, *Bartſia foliis oppoſitis lanceolatis obtuſè ſerratis.* Columna calls it, *Trixago Apula unicaulis*; Ray, *Criſta galli ſpicata, flore luteo magno, Meſſanenſis*; and Caſpar Bauhine, *Chamædrys unicaulis ſpicata*; alſo, *Antirrinum folio diſſecto.* It riſes among the ruſhes in the moiſt maritime parts of France, Italy, and Paleſtine.

Claſs and order in the Linnæan Syſtem. The characters. *Rhinanthus* is of the claſs and order *Didynamia Angioſpermia*; and the characters are,

1. CALYX is a monophyllous, roundiſh, inflated, compreſſed, permanent perianthium, indented in four parts.

2. COROLLA is one ringent petal. The tube is nearly cylindrical, and the length of the calyx. The limb is opening at the top, and compreſſed at the baſe. The upper lip is galeated, compreſſed, and indented at the point. The lower lip is ſpreading, plane, obtuſe, and divided into three ſegments, the middle one being the broadeſt.

3. STAMINA are four filaments the length of the upper lip, and hid under it, two of them being ſhorter than the other, having incumbent, hairy, bifid antheræ.

4. PISTILLUM conſiſts of an oval, compreſſed, germen, a filiforme ſtyle longer than the ſtamina, and an obtuſe, inflexed ſtigma.

5. PERICARPIUM is an obtuſe, erect, compreſſed capſule, formed of two valves, containing two cells, and opening at the edges.

6. SEMINA. The ſeeds are many, and compreſſed.

CHAP. CCLXXVIII.

RICINUS, PALMA CHRISTI.

IN our gardens there is a well-known Annual, called Common *Ricinus*, or *Palma Chriſti*.

The plant deſcribed. The ſtalk is upright, thick, firm, ſmooth, jointed, and eight or ten feet high. The leaves are very large, peltated, divided into ſeveral lobes in a hand-like manner, ſerrated on their edges, and grow on long footſtalks. The flowers come out in ſpikes from the diviſions of the branches at the upper parts of the plants; there are males and females on the ſame plant; they appear in July and Auguſt, and the females are ſucceeded by oblong, ſtriped ſeeds, in form of a large tick, which ripen in the autumn.

Varieties of it deſcribed. There are many varieties of this ſpecies, ſome growing only to about three or four feet high, whilſt others will riſe to upwards of fourteen feet. The ſtalks of ſome are green, others grey, a third ſort is brown, and a fourth of a red colour. The leaves alſo vary much in colour and ſize; ſome being rather ſmall in proportion, others upwards of two feet in breadth, a third ſort green on both ſides, and a fourth grey or whitiſh, eſpecially underneath: Their ſhape alſo varies; ſome being divided into more or larger lobes, and more ſhaped like the hand, than others: Their edges alſo vary in the depth of the ſerratures, and the diviſions of the parts.

Method of propagation. They are all raiſed by ſowing the ſeeds on a hot-bed in the ſpring. When the plants are fit to remove, the common way is to plant them in pots, and give them the benefit of a freſh hot-bed; then to harden them by degrees to the open air, and afterwards plant them out. But ſuch plants ſeldom arrive to ſo great a ſize as thoſe that have been leaſt removed. Let them, therefore, grow in the hot-bed until they are tolerably ſtrong plants; then with a ſpade, preſerving all the mould, if poſſible, at the roots, plant them in ſome very rich, warm part of the garden, and in the autumn they will flower, and, if the ſeaſon proves good, perfect their ſeeds.

In order to have them ſtill in greater perfection, (for the beauty of theſe plants conſiſts chiefly in the largeneſs of the leaves) let a hot-bed be made on purpoſe for them, and the ſeeds ſown thereon. When they come up, thin them to proper diſtances, harden them by degrees to the open air, and then take off the glaſſes; and ſuch plants will be fairer, much larger, and more beautiful, than thoſe that have been removed.

In order to obtain good ſeeds for a ſucceſſion with greater certainty, a ſufficient number of plants ſhould be ſet in ſome dry, warm, ſandy, or rubbiſhy part of the garden. In ſuch a ſituation they will make little progreſs in ſize; but being ſtunted in growth, they will produce their flowers earlier, and in greater abundance; and it is from ſuch ſtunted plants that good ſeeds for a ſucceſſion are with greater certainty obtained.

The plants may be preſerved two years, if potted and protected from cold in winter; but ſuch plants are never ſo beautiful the ſecond year as thoſe which are treated as Annuals; neither is the method worth putting into practice.

Titles. Communis.

The Common *Ricinus*, or *Palma Chriſti*, is titled, *Ricinus foliis peltatis ſubpalmatis ſerratis*. In the *Hortus Cliffort.* it is termed, *Ricinus foliis peltatis ſerratis, petiolis glanduliferis*. Caſpar Bauhine calls it, *Ricinus vulgaris*; Rumphius, *Ricinus albus*; alſo, *Ricinus ruber*; Lobel, *Ricinus gallis palma Chriſti*; and Tournefort, *Ricinus Africanus maximus, caule geniculato rutilante*. It grows naturally in Africa, America, and the ſouth of Europe.

Claſs and order in the Linnæan Syſtem. The characters.

Ricinus is of the claſs and order *Monoecia Monadelphia*; and the characters are,

I. Male Flowers.

1. Calyx is a monophyllous perianthium, divided into five oval, concave ſegments.
2. Corolla. There is none.
3. Stamina are numerous filiforme filaments, variouſly connected, having didymous, roundiſh antheræ.

II. Female Flowers on the ſame plant with the Males.

1. Calyx is a monophyllous perianthium divided into three oval, concave, deciduous ſegments.
2. Corolla. There is none.
3. Pistillum conſiſts of an oval, covered germen, and three bifid, erect, patent, hiſpid ſtyles, with ſimple ſtigmas.
4. Pericarpium is a roundiſh, triſulcated capſule, formed of three valves, and containing three cells.
5. Semen. The ſeed is ſingle, and nearly oval.

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CHAP. CCLXXIX.

RICOTIA,

THERE is only one ſpecies of this genus, called *Ricotia*, or Pendulous-podded Ladies Smock.

The plant deſcribed.

The ſtalk is upright, ſmooth, branching, and about a foot and a half high. The leaves are winged, large, and compoſed of numerous folioles of unequal figures, ſome being trifid, others entire, a third ſort large, and a fourth ſmaller; they are all ſmooth, of a lucid-green colour, and are terminated by an odd one. The flowers come out from the ends and ſides of the branches in ſmall, looſe cluſters, growing on pretty long, ſlender footſtalks; they are of a purple colour, appear in June and July, and are ſucceeded by ſpear-ſhaped, oval pods, containing ripe ſeeds in September.

Culture.

This is an hardy Annual, and gives little trouble in its propagation. Sow the ſeeds in September, in any bed of common mould made fine; and the plants will readily come up, ſtand the winter, and flower early the ſummer following.

Sow the ſeeds alſo in the ſpring, and they will grow, and flower, though later in the year than the former. However, they will flower early enough to perfect their ſeeds; but, nevertheleſs, the beſt ſeeds are always gathered from the earlieſt plants.

When theſe plants come up, they will require no trouble, except thinning them where they are too cloſe, and weeding and watering, if the weather ſhould prove extremely dry.

If the ſeeds are neglected to be gathered, they will ſow themſelves, come up, and produce you plants enough without further trouble. Nevertheleſs, as ſuch plants often appear in improper places, I would always adviſe the ſeeds to be regularly gathered, and ſown in the places where they are to remain.

Titles. Ægyptiaca.

There being no other ſpecies of this genus, it ſtands with the name, ſimply, *Ricotia*. In the former edition of the *Species Plantarum* it is termed, *Cardamine foliis ſupradecompoſitis, ſiliquis unilocularibus pendulis*; and in Miller's Dict. *Lunaria foliis ſupradecompoſitis, foliolis trifidis, ſiliquis oblongis pendulis*. It grows naturally in Ægypt.

Claſs and order in the Linnæan Syſtem. The characters.

Ricotia is of the claſs and order *Tetradynamia Siliquoſa*; and the characters are,

1. Calyx is a perianthium compoſed of four oblong, parallel, approximated, deciduous leaves.
2. Corolla is cruciforme, and compoſed of four obcordated, patent petals.
3. Stamina. There are ſix filaments the length of the tube, of which the two oppoſite ones are rather ſhorter than the other four. The antheræ are oblong, and acute.
4. Pistillum conſiſts of a cylindrical germen the length of the ſtamina, a very ſhort ſtyle, and an acute ſtigma.
5. Pericarpium is a ſpear-ſhaped, oval, bivalvate pod, containing one cell.
6. Semina. The ſeeds are few, round, and compreſſed.

CHAP. CCLXXX.

RUDBECKIA, DWARF SUNFLOWER.

THIS genus affords us one ſpecies for this place, called, the Three-lobed Dwarf Sunflower.

The plant deſcribed. This ſpecies is a Biennial, and in ſome places is called Virginian Hemp Agrimony, and in others Virginian *Chryſanthemum*. The radical leaves, as alſo thoſe on the ſtalks, are each compoſed of three diſtinct, oblong, oval, hairy lobes. Among theſe riſes the flower-ſtalk, which ſends forth a few ſlender branches from the ſides, but the leaves on theſe are undivided. The flowers come out from the upper-parts of the plant on long, ſlender footſtalks. The rays are of a golden-yellow colour, but the center, which is prominent, is of a dark-purple colour; they appear in July, and often continue in ſucceſſion until October; by which time, in favourable ſeaſons, ripe ſeeds may be gathered from the firſt-blown flowers.

Culture. The ſeeds ſhould be ſown in May, in a border of light earth; and when the plants come up, the weakeſt ſhould be drawn out, leaving the others at about three inches diſtance from one another every way. All ſummer they muſt be kept clean from weeds, and watered in dry weather; by the autumn they will be good, ſtrong plants, and may be taken up with a ball of earth to each root, and ſet in the places where they are deſigned to flower, which will be the ſummer following.

They may alſo be encreaſed by planting of the ſlips taken from the roots in the ſpring, but theſe always produce inferior plants to thoſe raiſed from ſeeds. And indeed if good ſeed can be conſtantly procured from America, the beſt way will be to treat the Narrow-leaved and the Oppoſite-leaved Dwarf Sunflower, which are among the Perennials, as Biennials, becauſe their beauty will be greatly diminiſhed if they ſurvive the firſt year's blow.

The ſpecies under conſideration, like them, muſt have a dry, warm ſoil, and a well-ſheltered ſituation, otherwiſe it will be liable to be deſtroyed by an unpropitious winter.

Titles. Triloba. The Three-lobed Dwarf Sunflower is titled, *Rudbeckia foliis ſpatulatis: caulinis quibuſdam trilobis, rameis indiviſis.* Gronovius calls it, *Rudbeckia foliis trilobis*; Plukenet, *Chryſanthemum cannabinum Virginianum hirſutum, diſco magno, petalis aureis radiato*; and Moriſon, *Chryſanthemum annuum majus Virginianum, foliis laciniatis & hirſutis, umbone nigricante.* It grows naturally in Virginia.

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CHAP. CCLXXXI.

RUMEX, DOCK.

THE following Annuals, though of little beauty, yet being of foreign growth, are found in ſome curious collections of plants.

Species.

1. Ægyptian Dock.
2. Virginian Dock.
3. Italian Dock.
4. African Dock.
5. Roſy Ægyptian Dock.

Ægyptian 1. The Ægyptian Dock will grow to about a foot high, and ſends forth a few horizontal branches from the lower part of the ſtalks. The leaves are oblong, and not more than about two inches long, and half an inch broad. The flowers are produced in whorls round the upper part of the ſtalks; they are ſmall, and are almoſt hid by long, briſtly beards, that adhere to the trifid valves; they will be in blow in July, and ripen their ſeeds in Auguſt.

Virginian 2. Virginian Dock. This is a very branching plant, about ten inches high. The leaves are ſpear-ſhaped, ſmooth, waved, whole, and placed on footſtalks. The flowers are ſmall, and obſcured by the briſtly beards attending them; they will be in blow in July, and ripen their ſeeds in Auguſt.

Italian, 3. Italian Dock. The ſtalks are ſlender, branching, and grow to about five inches high. The leaves are oval, and grow only on the lower part of the ſtalks. The flowers are produced, in whorls round the upper parts of the ſtalks; they are ſmall, of a greeniſh colour, appear in June, and ripen their ſeeds in Auguſt.

African, 4. African Dock. The ſtalks are upright, firm, ſucculent, branching, and riſe to about a foot high. The leaves are round, heart-ſhaped, undivided, and have very long footſtalks. The flowers are produced in looſe ſpikes from the ends of the branches; they are ſmall, herbaceous, appear in July, and ripen their ſeeds, contained in large, inflated covers, having large, membranaceous borders, in the autumn.

and Roſy Dock deſcribed. 5. Roſy Dock. The ſtalk branches near the top, and will grow to about a foot and a half high. The leaves are arrow-ſhaped, ſmooth, appear torn or eaten on the ſides, and have moderately long footſtalks. The flowers are produced in looſe ſpikes from the ends of the branches; they appear in July, and ripen their ſeeds, contained in large, inflated, red covers, having membranaceous borders, in the autumn.

Culture. The propagation of all theſe ſorts is exceeding eaſy. Sow the ſeeds thinly on a bed of light, rich, ſandy mould, and ſift over them a quarter of an inch of the like fine mould. They grow very well, if ſown in the autumn or ſpring, and after they come up nothing more need be done than to thin them to proper diſtances, and keep them clean from weeds. They will flower in the ſummer, and ripen their ſeeds generally about Auguſt, or early in September: Theſe falling from the old plants will alſo grow, and continue the ſucceſſion without further trouble.

Titles. Ægyptiacus. 1. The Ægyptian Dock is titled, *Rumex floribus hermaphroditis: valvulis trifido-ſetaceis: unicâ graniferâ.* Wachendorf calls it, *Rumex floribus hermaphroditis, foliis oblongis valvulis dentato-ſetaceis longiſſimis*; and Dillenius, *Lapathum Ægyptiacum, capſulâ ſeminis albâ & crenatâ.* It grows naturally in Egypt.

Persicarioides. 2. Virginian Dock is, *Rumex floribus hermaphroditis: valvulis dentatis: omnibus graniferis, foliis lanceolatis.* It grows naturally in Virginia.

Bucephalophorus. 3. Italian Dock is, *Rumex floribus hermaphroditis: valvulis dentatis nudis, pedicellis planis reflexis.* In the *Hortus Cliffort.* it is termed, *Rumex fructibus dentatis calyce reflexis, caput bovinum referentibus.* Caſpar Bauhine calls it, *Acetoſa, ocymi folio, Neapolitana*; and Columna, *Acetoſa, ocymi folio, bucephalophoros.* It grows naturally in Italy.

Vesicarius. 4. African Dock is, *Rumex floribus hermaphroditis geminatis: valvularum alis omnibus maximis membranaceis reflexis, foliis indiviſis.* Caſpar Bauhine calls it, *Acetoſa Americana, foliis longiſſimis pediculis donatis.* It grows naturally in Africa.

Roseus. 5. Roſy Dock is, *Rumex floribus hermaphroditis diſtinctis: valvulæ alterius alâ maximâ membranaceâ declinatâ, foliis eroſis.* Shaw calls it, *Acetoſa Ægyptica, roſeo ſeminis involucro.* It grows naturally in Egypt.

C H A P. CCLXXXII.

SAGINA.

THERE are two Annuals of this genus, called,

Species.
1. Procumbent *Sagina.*
2. Upright *Sagina.*

Deſcription of Procumbent 1. Procumbent *Sagina.* This uſually goes by the various names of Graſs-leaved Chickweed, Pearl-wort, Chickweed Break-ſtone, &c. The ſtalks are numerous, jointed, branching, three or four inches long; and ſome lie on the ground, whilſt others are more or leſs erect. The leaves are narrow, ſhort, ſharp-pointed, ſmooth, and of a good green colour. The flowers come out from the wings of the leaves on footſtalks; they are of a white colour, appear in June and July, and the ſeeds ripen in July or Auguſt.

and Upright Sagina. 2. Upright *Sagina.* This is often called Smooth Spring Chickweed, and the Leaſt Stickwort. The leaves form a ſmall tuft at the crown of the root, are hardly an inch long, broadeſt at the baſe, pointed, ſmooth, and gloſſy. The ſtalk is upright, round, ſlender, jointed, three or four inches high, and garniſhed with two or three leaves at each joint, like the radical ones, but ſmaller. The flowers are uſually produced ſingly from the tops of the ſtalks; they are of a white colour, appear in April and May, and the ſeeds ripen in June.

Theſe ſorts grow in ſandy, gravelly places, frequently (eſpecially the firſt) on old walls, buildings, &c. and are never cultivated in gardens.

Titles. Procumbens. 1. The firſt ſpecies is titled, *Sagina ramis procumbentibus, petalis breviſſimis.* Guettard calls it, *Sagina ſcapis & ramis unifloris*; Seguier, *Alſine puſilla graminea, flore tetrapetalo*; Ray, *Alſine minima, flore fugaci*; alſo, *Saxifraga graminea puſilla, foliis brevioribus craſſioribus & ſucculentis*; and Haller, *Alſine tetrapetala, foliis anguſtis in origine lateſcentibus.* It grows naturally in the ſterile parts of England, and moſt countries of Europe.

Erecta. 2. The ſecond ſpecies is, *Sagina caule erecto unifloro triflorove.* Guettard calls it, *Sagina ſcapis unifloris*; Ray, *Alſine foliis caryophyllis*; and Magnol, *Alſine verna glabra.* It grows naturally in England, Gaul, and Germany.

Claſs and order in the Linnæan Syſtem. *Sagina* is of the claſs and order *Tetrandria Tetragynia*; and the characters are,

The characters.
1. Calyx is a perianthium compoſed of four oval, concave, patent, permanent leaves.
2. Corolla is four oval, obtuſe, patent petals, which are ſhorter than the calyx.
3. Stamina are four capillary filaments, with roundiſh antheræ.
4. Pistillum conſiſts of a globular germen, and four awl-ſhaped, recurved, hoary ſtyles, with ſimple ſtigmas.
5. Pericarpium is an oval capſule, formed of four valves, and containing four cells.
6. Semina. The ſeeds are numerous, ſmall, and affixed to the receptacle.

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C H A P.

CHAP. CCLXXXIII.

SALICORNIA, JOINTED GLASS-WORT, or SALT-WORT.

OF this genus there is one Annual, called, Common Jointed Glaſs-wort, Salt-wort, or Marſh Sampire.

The plant deſcribed.

The ſtalk is thick, ſucculent, jointed, branching, and trailing on the ground. The leaves are ſhort, ſucculent, and of a fine ſoft green colour. The flowers come out from the tops of the branches; they are very ſmall, and of a yellowiſh-green colour; they appear in July and Auguſt, and the ſeeds ripen in the autumn.

Its uſes.

The young plants of this ſpecies are gathered and pickled under the name of Marſh Sampire; and the full-grown plants are gathered in amazing quantities at the latter end of the ſummer, dried, and then burnt for the aſhes, which are uſed in making of glaſs and ſoap.

Culture.

It is rarely propagated, but it may nevertheleſs be effected by ſowing the ſeeds on a ſlight hot-bed in the ſpring; and when they are fit to remove, ſet them out in ſome light, dry, ſandy place, where they will flower, and perfect their ſeeds.

Titles.

Herbacea.

This ſpecies is titled, *Salicornia patula, articulis apice compreſſis emarginato-bifidis.* In the *Flora Suecia* it is termed, *Salicornia herbacea*; in the *Hortus Cliff. Salicornia.* Sauvages calls it, *Salicornia annua*; Tournefort, *Salicornia geniculata annua*; Caſpar Bauhine, *Kali geniculatum annuum*; and Gronovius, *Salicornia caulium ramorumque articulis emarginatis bifidis.* It grows plentifully on our ſea-coaſts, and in the like ſituation in moſt other countries of Europe, and in ſome parts of America.

CHAP. CCLXXXIV.

SALSOLA, GLASS-WORT.

OF this genus there are the following ſpecies; viz.

Species.

1. Smooth Glaſs-wort.
2. Decumbent Prickly Glaſs-wort.
3. Erect Prickly Glaſs-wort.
4. Roſy Glaſs-wort.
5. Sweet Glaſs-wort.
6. Hairy Gooſe-foot, or Dwarf *Kali.*
7. Sea Gooſe-foot.
8. Talleſt Gooſe-foot, or Graſs-leaved *Kali.*

Smooth Glaſs-wort deſcribed.

1. Smooth Glaſs-wort is a ſpreading, hoary plant, about a yard high. The ſtalks are round, thick, ſucculent, and uſually of a purpliſh colour near the ground. The branches are produced from the bottom of the plants, are of a conſiderable length, and they get ſhorter in proportion as they come out near the top. The leaves are long, ſlender, and have ſpines; thoſe on the lower part of the plant are largeſt, and thoſe which garniſh the upper part are very narrow, ſhort, and crooked. The flowers are very ſmall, and of a greeniſh colour; they come out in July or Auguſt, but are very rarely ſucceeded by good ſeeds in this country.

This is the principal ſpecies of the genus, which produces the *Sal alkali*, and for which purpoſe it is cultivated in ſalt-marſhes in many parts, particularly near Montpelier in France.

Method of making Sal Alkali

In order to produce the *Sal Alkali*, a trench is to be dug in the ground, a fire made under it, and the plants laid over it at proper diſtances, on ſlips of boards or laths placed for the purpoſe. The liquor will ſoon flow, and drop to the bottom; and hardening, becomes of a black or aſh colour, very ſharp and ſalt to the taſte. This matter, when thoroughly hardened, is called *Soda* or *Sode*; and being mixed with aſhes and melted together, is the chief matter of which glaſs is formed.

Decumbent,

2. Decumbent Prickly Glaſs-wort. This is a low, decumbent plant, growing, if ſupported, only to about half a foot high. The ſtalks are round, thick, ſucculent, of a duſky-green colour, and ſend forth many ſpreading branches from the bottom to the top. The leaves are awl-ſhaped, fleſhy, full of juice, and each of them is terminated by a ſharp, dry ſpine. The flowers are ſmall, and of a greeniſh colour; they come out from the ſides of the branches, ſitting cloſe, without any footſtalks; they make their appearance in July or Auguſt, and the ſeeds ripen in the autumn.

This plant grows common on ſome of our ſhores, and is cultivated in ſome parts for the ſame purpoſes as the former.

and Upright Prickly Glaſs-wort. deſcribed.

3. Upright Prickly Glaſs-wort. This is an upright, herbaceous, branching plant, about half a foot high. The leaves are long, narrow, ſucculent, ſmooth, and each is terminated by a ſharp ſpine. The flowers are ſmall, greeniſh, and grow from the ſides of the branches without any footſtalks; they come out about the ſame time with

the former, and are ſucceeded by beautifully-twiſted ſeeds.

Deſcription of Roſy

4. Roſy Glaſs-wort. The ſtalks are herbaceous, branching, and about half a foot high. The leaves are awl-ſhaped, and ſharp-pointed. The flowers are ſmall, and of a roſe colour; they come out in July or Auguſt, and are very rarely ſucceeded by ſeeds in England.

and Sweet Glaſs-wort.

5. Sweet Glaſs-wort. The ſtalks are herbaceous, ſpreading, and grow to about a foot high. The leaves are ſhort, taper, ſucculent, ſmooth, and reſemble thoſe of the Smaller *Sedum*. The flowers are produced in ſmall cluſters from the ſides of the branches; they are ſmall, herbaceous, and are hardly ever ſucceeded by good ſeeds in this country.

Hairy,

6. Hairy Gooſe-foot, or Dwarf *Kali*. This plant hath ſeveral weak, ſlender, herbaceous ſtalks, about ſix or eight inches in length. The leaves are long, taper, downy, obtuſe, and placed alternately on the branches. The flowers come out from the wings of the leaves in July and Auguſt; they are ſmall, and of no beauty, and they are ſucceeded by contorted ſeeds in the autumn.

Sea,

7. Sea Gooſe-foot. The ſtalks are herbaceous, and divide into many branches, which are deflexed. The leaves are narrow, taper, obtuſe, and convex underneath. The flowers are of little figure, and they come out about the ſame time with the former.

and Talleſt Gooſe-foot deſcribed.

8. Talleſt Gooſe-foot, or Graſs-leaved *Kali*. The ſtalks are erect, and grow to be three or four feet high. The leaves are ſlender, ſucculent, and acute-pointed. The flowers are produced from the wings of the leaves in July and Auguſt, but it is very ſeldom that they are ſucceeded by good ſeeds in England.

From all theſe ſorts alkali ſalt may be prepared, though the firſt-mentioned is the moſt proper, and in general uſe for the purpoſe.

Compoſt proper for them.

All theſe ſorts love a ſandy ſoil that has been well ſoaked with ſea-water; ſo that if ſea-ſand can be procured, it will be neceſſary to get ſome into the garden; if not, ſome good drift-ſand muſt be procured, and a gallon of Salt to each barrowfull ſhould be added, and alſo an equal ſhare with the ſward of freſh mould from a good paſture; the whole ſhould be laid together in an heap, and turned over every day for a week or more, and it will then be a proper compoſt for theſe ſpecies.

Culture.

The ſeeds muſt be procured from the ſalt-marſhes and places where the plant naturally grows, and in the ſpring they ſhould be ſown thinly in ſmall pots filled with the ſalt compoſt; the pots ſhould be then plunged up to the rims in a moderate hot-bed; and when the plants are grown to be pretty ſtrong, the weakeſt ſhould be drawn out, leaving two plants only to each pot. Plenty of air, as the weather will permit, muſt at all times be given them, and they ſhould be frequently watered and hardened to the air by degrees; and about the end of May, when all danger of bad weather is over, they may be turned out of the pots, ſtill preſerving the mould undiſturbed at the roots, into the places where they are deſigned to remain, which ought to be light and ſandy, or made ſo with the above kind of compoſt.

With this management the plants will grow ſtrong, flower early, and if the ſeaſon proves favourable, many of them will afford you good ſeeds for a ſucceſſion.

Titles.

1. Smooth Glaſs-wort is titled, *Salſola herbacea patula, foliis inermibus.* Caſpar Bauhine calls it, *Kali majus, cochleato ſemine*; Lobel, *Soda, Kali magnum, ſedi medii folio*; and Dodonæus ſimply, *Kali.* It grows naturally in the ſalt-marſhes of the ſouthern parts of Europe. Soda.

2. Decumbent Prickly Glaſs-wort is, *Salſola herbacea decumbens, foliis ſubulatis ſpinoſis, calycibus marginatis axillaribus.* In the *Hort. Cliff.* it is termed, *Salſola foliis pungentibus.* Caſpar Bauhine calls it, *Kali ſpinoſo affinis*; and Cammerarius, *Tragum.* It grows naturally on the ſea-ſhores in England, and many other parts of Europe. Kali.

3. Erect Prickly Glaſs-wort is, *Salſola herbacea erecta, foliis ſubulatis ſpinoſis lævibus, calycibus ovatis.* Caſpar Bauhine calls it, *Kali ſpinoſum cochleatum*; Tournefort, *Kali ſpinoſum, foliis longioribus & anguſtioribus*; and Tabernæmontanus, *Drypis Theophraſti.* It is a native of ſeveral of the ſouthern parts of Europe. Tragus.

4. Roſy Glaſs-wort is, *Salſola herbacea, foliis ſubulatis mucronatis, calycibus explanatis.* In the *Hortus Upſal.* it is termed, *Salſola foliis conico-ſubulatis mucronatis, calycibus corolliformibus obtuſis coloratis crenatis.* Buxbaum calls it, *Kali humile, alis purpureis florem roſaceum mentientibus.* It is a native of Aſia. Rosacea.

5. Small Glaſs-wort is, *Salſola diffuſa herbacea, foliis teretibus glabris, floribus conglomeratis.* Juſſieu calls it, *Kali Hiſpanicum ſupinum annuum, ſedi foliis brevioribus*; and Caſpar Bauhine, *Kali minus alterum.* It grows on the ſouthern coaſts of Spain. Sativa.

6. Hairy Gooſe-foot, or Dwarf *Kali*, is, *Salſola diffuſa herbacea, foliis teretibus obtuſis tomentoſis.* In the former edition of the *Species Plantarum* it is termed, *Chenopodium hirſutum.* Caſpar Bauhine calls it, *Kali minus villoſum*; and John Bauhine, *Kali parvum hirſutum.* It grows naturally in the ſouth of France, and in Denmark. Hirsuta.

7. Sea Gooſe-foot is, *Salſola patula herbacea, foliis ſemiteretibus obtuſis ramis reflexis.* In the *Hortus Upſal.* it is termed, *Chenopodium foliis linearibus obtuſis ſubtùs convexis, caule ramoſo, ramis deflexis.* Buxbaum calls it, *Chenopodium maritimum, foliis ſedi teretibus.* It is a native of Aſtrachan. Salsa.

8. Talleſt Gooſe-foot, or Graſs-leaved *Kali*, is, *Salſola erecta ramoſiſſima herbacea, foliis filiformibus acutiuſculis.* In the former edition of the *Species Plantarum* it is termed, *Chenopodium altiſſimum.* Buxbaum calls it, *Chenopodium altiſſimum, foliis ſucculentis*; Caſpar Bauhine, *Kali gramineo folio.* A variety of this ſpecies, in the *Hortus Upſal.* ſtands with the title, *Salſola foliis filiformibus inermibus mucronatis, caule ramoſiſſimo.* Haller calls this, *Lerchea foliis filiformibus acutis.* It grows naturally on the ſea-ſhores of Italy, Saxony, and Aſtrachan. Altissima.

CHAP. CCLXXXV.

SALVIA, SAGE.

THE ſpecies of this genus that are proper for this place are,

Species.
1. Domingo Sage.
2. Spaniſh Sage.
3. Whorled Auſtrian Sage.
4. Oriental Sage.
5. Green Annual Sage.
6. Grecian Sage, or Wild Clary of Matthioli.
7. Tartarian Sage.
8. Italian Sage.
9. Syrian Sage, or Common Clary.
10. Silvery Sage of Crete.
11. Æthiopian Sage.
12. Perſian Sage.

The ſix firſt of theſe are Annuals, the others are Biennials.

Deſcription of Domingo, 1. Domingo Sage. The ſtalk is upright, four-cornered, branching, and will grow to about a yard high. The leaves are heart-ſhaped, obtuſely crenated, hoary underneath, and grow on long, ſlender footſtalks. The flowers are produced from the ends of the branches in cloſe ſpikes; their colour is blue; they appear in July, and ripen their ſeeds in the autumn.

Spaniſh, 2. Spaniſh Sage. The ſtalks are four-cornered, furrowed, hairy, and riſe to about ſix feet high. The leaves are oval, acute, rough, ſerrated, and their footſtalks have prominent points of a thickiſh conſiſtence. The flowers are produced in four-cornered, imbricated ſpikes; their colour is blue, having at the baſe of each petal two paleiſh ſpots; they appear in July, and ripen their ſeeds in the autumn.

Whorled Auſtrian, 3. Whorled Auſtrian Sage. The leaves are moderately broad, heart-ſhaped, and indented. The flowers grow in whorls round the upper parts of the branches; they come out in July, and ripen their ſeeds in the autumn.

Oriental, 4. Oriental Sage. The ſtalks are trailing, and very hairy. The leaves are winged, being compoſed of about two or three pair, terminated by an odd one; they are very hairy, and the odd lobe is much larger than the others. The flowers ſurround the ſtalks in whorls; they are large, and of a deep-blue colour, having alſo cups of the ſame colour; they appear in July, and ripen their ſeeds in the autumn.

Green Annual, 5. Green Annual Sage. The ſtalks are ſlender. The leaves are oblong, and crenated. The flowers grow in whorls round the ſtalks; they come out in July, and ripen their ſeeds in September.

Grecian, 6. Grecian Sage, or Wild Clary of Matthioli. The leaves are crenated, and obtuſe. The flowers are produced in whorls round the ſtalks in the ſummer, and the ſeeds ripen in the autumn.

Tartarian 7. Tartarian Sage. This plant is uſually called a Biennial, tho' the roots will ſometimes laſt three or four years. The ſtalks are ſlender, four-cornered, and grow to about a foot and a half high. The radical leaves are cordated, but thoſe on the ſtalks are ſpear-ſhaped, oval, have ſerrated edges, and are hoary underneath. The flowers are produced in four-cornered ſpikes, having coloured bracteæ. Their colour is blue; they appear in June, and ripen their ſeeds in Auguſt.

Italian, 8. Italian Sage. The ſtalks are four-cornered, hairy, and about eight inches long. The leaves are oblong, pinnatifid, very rough, ſerrated, and have footſtalks. The flowers are produced in obtuſe ſpikes, having heart-ſhaped bracteæ; they are of a violet colour with a mixture of white; they come out in June or July, and ripen their ſeeds ſoon after.

and Syrian Sage deſcribed. 9. Syrian Sage, or Common Clary. The ſtalks are thick, hairy, and about two feet long. The leaves are large, heart-ſhaped, oblong, ſerrated, rough, and hairy. The flowers terminate the branches in kind of ſpikes; they are of a paleiſh-blue colour, and attended by ſpear-ſhaped, concave, ſharp-pointed leaves; they appear in ſummer, and ripen their ſeeds in September.

Varieties. There are ſeveral varieties of this ſpecies, ſome having very broad leaves, ſome long, others very much wrinkled; and all of them are woolly, and of a thick ſubſtance.

Silvery Sage of Crete. 10. Silvery Sage of Crete. The ſtalks are erect, downy, and for the moſt part ſimple. The leaves are white, oblong, dentated, angular, thick, and woolly. The flowers are produced in whorls round the ſtalks, having concave bracteæ; their colour is chiefly white, having a beautiful aſſortment of purple and yellow in the different parts; they appear in June and July, and ripen their ſeeds in the autumn.

The roots of this ſpecies will often continue three years.

Deſcription of Æthiopian, 11. Æthiopian Sage. There are ſeveral varieties of this plant, ſome of which grow to about a foot high, and others much taller. The leaves are oblong, eroſe, and woolly. The flowers grow in whorls round the ſtalks, and have recurved, prickly bracteæ.

and Perſian Sage. 12. Perſian Sage. The leaves are very rough, pinnatifid, and woolly. The flowers grow in whorls round the upper parts of the ſtalks; and they come out and ripen their ſeeds nearly at the ſame time with the former.

Culture. The firſt ſix ſpecies being Annuals, are to be raiſed by ſowing the ſeeds early in the autumn or ſpring, in a warm border of light, good earth. After they come up, they will require no trouble, except keeping them clean from weeds, and thinning them where they appear too cloſe; they will flower in the ſummer, and ſhed their ſeeds, which will produce freſh plants without further trouble.

The other ſix, being Biennials, muſt be ſown as ſoon as the ſeeds are ripe, and many of them will flower the ſummer following, whilſt the weakeſt plants will remain until the year after that before they ſhew their bloom. They alſo may be ſown in the ſpring, and ſuch plants will come into blow regularly the ſummer after. They require no trouble, except keeping them clean from weeds, and thinning them where they come up too cloſe; and moſt of them will ſhed their ſeeds, and produce freſh plants for a ſucceſſion without trouble or art.

Titles.

Dominica. 1. Domingo Sage is titled, *Salvia foliis cordatis obtuſis crenatis ſubtomentoſis, corollis calyce anguſtioribus.* It grows naturally in Domingo.

Hiſpanica. 2. Spaniſh Sage is, *Salvia foliis ovatis, petiolis utrinquè mucronatis: ſpicis imbricatis, calycibus trifidis.* Tabernæmontanus calls it, *Sclarea Hiſpanica.* It grows naturally in Spain and Italy.

Verticillata. 3. Whorled Auſtrian Sage is, *Salvia foliis cordatis crenato-dentatis, verticillis ſubnudis, ſtylo corollarum labio inferiore incumbentibus.* In the *Hortus Cliffort.* it is termed, *Salvia foliis cordato-ſagittatis dentatis.* Caſpar Bauhine calls it, *Horminum ſylveſtre latifolium verticillatum*; and Cluſius, *Horminum ſylveſtre tertium.* It grows naturally in Auſtria.

Pinnata. 4. Oriental Sage is, *Salvia foliis compoſitis pinnatis.* Boerhaave calls it, *Salvia orientalis latifolia hirſutiſſima viſcoſa pinnata, flore & calyce purpureis, inodora*; and Plukenet, *Horminum Arabicum, alatis foliis, flore rubello.* It grows naturally in the Eaſt.

Viridis. 5. Green Annual Sage is, *Salvia foliis oblongis crenatis, corollarum galeâ ſemi-orbiculatâ, calycibus fructiferis reflexis.* In the *Hortus Upſal.* it is termed, *Salvia foliis ovato-oblongis obtuſis æqualitèr crenatis, corollarum galeâ ſemi-orbiculatâ.* Tournefort calls it, *Horminum comâ viridi.* It is not certain in what country it grows naturally.

Horminum. 6. Grecian Sage is, *Salvia foliis obtuſis crenatis, bracteis ſummis ſterilibus majoribus coloratis.* Caſpar Bauhine calls it, *Horminum ſativum*; and Geſner, *Horminum verum Matthioli.* It grows naturally in Greece.

Nemoroſa. 7. Tartarian Sage is, *Salvia foliis cordato-lanceolatis ſerratis planis, bracteis coloratis, corollæ labio infimo reflexo.* Zinn calls it, *Salvia foliis cordato-lanceolatis ſimplicitèr ſerratis, ſtaminibus galeam æquantibus*; Caſpar Bauhine, *Horminum ſylveſtre ſalvifolium minus*; and Tournefort, *Sclarea, folio ſalviæ, minor ſ. glabra.* It grows naturally in Tartary and Auſtria.

8. Italian Sage is, *Salvia foliis ſerratis pinnatifidis rugoſiſſimis, ſpicâ obtuſâ, corollis calyce anguſtioribus.* Barrelier calls it, *Horminum ſylveſtre, inciſo folio, cæſio flore, Italicum.* It grows naturally in Italy. Clandeſtina.

9. Syrian Sage is, *Salvia foliis rugoſis cordatis oblongis villoſis ſerratis, bracteis floralibus calyce longioribus concavis acuminatis.* This is, *Salvia foliis cordato-ovatis obſcurè undulatis, foliolis floralibus lanceolato-concavis*, Guettard, Stamp. 263. Caſpar Bauhine calls it, *Horminum ſclarea dictum*; and Dodonæus, *Orvalia.* It grows naturally in Syria and Italy. Sclarea.

10. Silvery Sage of Crete is, *Salvia foliis oblongis dentato-angulatis lunatis, verticillis ſummis ſterilibus, bracteis concavis.* Boerhaave calls it, *Sclarea Sicula, folio argenteo ſubrotundo.* It grows naturally in Crete. Argentea.

11. Æthiopian Sage is, *Salvia foliis oblongis eroſis lanatis, verticillis lanatis, bracteis recurvatis ſubſpinoſis.* In the *Hortus Cliffort.* it is termed, *Salvia foliis lanceolatis ſinuato-dentatis; floralibus verticillos comprimentibus.* Caſpar Bauhine calls it, *Æthiopis foliis ſinuoſis*; and Barrelier, *Æthiopis laciniatis foliis.* It grows naturally in Africa. Æthiopis ca.

12. Perſian Sage is, *Salvia foliis rugoſis pinnatifidis lanatis: verticillis ſummis ſterilibus.* In the *Hortus Cliffort.* it is termed, *Salvia foliis ſimplicibus dentato-pinnatis aſperis*; in the *Hortus Upſal. Salvia foliis ſimplicibus dentato-pinnatis, rugoſis verrucoſis.* Plukenet calls it, *Horminum rugoſo verrucoſoque folio cornu cervi exprimente.* It grows naturally in Perſia. Ceratophylla.

CHAP. CCLXXXVI.

SAPONARIA, SOPEWORT.

Species. OF this genus there are two Annuals, called,

1. Corn Sopewort.
2. Oriental Sopewort.

Deſcription of Corn 1. Corn Sopewort. The ſtalk is upright, ſends forth branches by pairs, and grows to about a foot and a half high. The leaves are oval, ſharp-pointed, ſmooth, ſeſſile, of a greyiſh colour, and grow oppoſite to each other at the joints. The flowers come out in kind of looſe umbels from the ends of the branches; they are of a red or reddiſh-purple colour, and have very large, pyramidical, five-cornered cups; they appear in June and July, and the ſeeds ripen in the autumn.

and Oriental Sopewort. 2. Oriental Sopewort. The ſtalk is erect, ſends forth branches by pairs from the bottom, which ſpread far aſunder, and grow to about ſix or eight inches high. The leaves are ſpear-ſhaped, ſmooth, and grow oppoſite to each other on ſhort footſtalks. The flowers come out ſingly from the wings of the leaves on ſlender footſtalks; they are ſmall, of a purple colour, and have hairy, cylindrical cups; they appear in June and July, and the ſeeds ripen in the autumn.

Culture. Theſe plants are propagated by ſowing the ſeeds, ſoon after they are ripe, or the ſpring following. After the plants are come up, they require no trouble, except thinning them where they are too cloſe, and keeping them clean from weeds; and after they have flowered and perfected their ſeeds, if they are permitted to ſcatter, freſh plants will ſpontaneouſly ariſe for a ſucceſſion without further trouble.

Titles. 1. Corn Sopewort is titled, *Saponaria calycibus pyramidatis quinquangularibus, foliis ovatis acuminatis ſeſſilibus.* Caſpar Bauhine calls it, *Lychnis ſegetum rubra, foliis perfoliatis*; and Dodonæus, *Vaccaria.* It grows naturally among the corn in ſeveral parts of France, Germany, Helvetia, and the Eaſt. Vaccaria.

2. Oriental Sopewort is, *Saponaria calycibus cylindricis villoſis, caule dichotomo erecto patulo.* Van Royen calls it, *Saponaria caule dichotomo, foliis lanceolatis petiolatis, floribus ſolitariis pedunculatis*; and Tournefort, *Lychnis orientalis annua ſupina, antirrhini folio flore minimo purpuraſcente.* It grows naturally in the Eaſt. Orientalis.

CHAP. CCLXXXVII.

SATUREJA, SAVORY.

THE only real Annual of this genus is Summer Savory.

The plant deſcribed. The ſtalks are erect, ſlender, about a foot long, and ſend forth branches by pairs at the joints. The leaves are ſpear-ſhaped, narrow, ſtiff, a little hairy, and finely ſcented. The flowers are produced from the wings of the leaves, two only growing on one footſtalk; they are of a paleiſh-red colour, appear in July, and ripen their ſeeds in the autumn.

Culture. Theſe plants are eaſily raiſed by ſowing the ſeeds the beginning of April, in a bed of common mould made fine; they will readily come up, and afterwards require no trouble, except thinning them to proper diſtances, watering them in dry weather, and keeping them clean from weeds. They bear tranſplanting very well; ſo that plants drawn to make way for the others, may be removed to any place with ſafety.

Titles. Hortensis. Summer or Garden Savory is titled, *Satureja pedunculis bifloris.* In the *Hortus Cliffort.* it is termed, *Thymus erectus annuus, foliis lanceolato-linearibus.* Caſpar Bauhine calls it, *Satureja hortenſis*; and Cammerarius, *Satureja altera.* It grows naturally in Italy, and the South of France.

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CHAP. CCLXXXVIII.

SAXIFRAGA, SAXIFRAGE.

OF this genus there is one Engliſh Annual, called, Rue-leaved Whitlow-graſs.

The plant deſcribed. The ſtalks are ſlender, upright, divide into a few branches, and grow to about three or four inches high. The leaves are ſmall, wedge-ſhaped, ſucculent, trifid, and grow alternately. The flowers come out ſingly on footſtalks from the ends and ſides of the branches; they are ſmall, of a white colour, appear in March and April, and the ſeeds ripen ſoon after the flowers are fallen.

This ſpecies grows naturally on houſe-tops, copings of walls, by way-ſides, &c. in light, ſandy ſoils, and is never cultivated in gardens.

Medicinal uſes of it. It is ſometimes uſed in medicine, and is remarkable for the cure of that diſorder of the nails called a Whitlow, which occaſioned its name.

Titles. Tridactylites. This plant is titled, *Saxifraga foliis caulinis cuneiformibus trifidis alternis, caule erecto ramoſo.* In the *Flora Lapp.* it is termed, *Saxifraga foliis omnibus trilobis baſi anguſtis, caule erecto.* Van Royen calls it, *Saxifraga foliis trifidis baſi anguſtis, caule erecto*; Caſpar Bauhine, *Sedum tridactylites tectorum*; Dodonæus, *Paronychia altera*; Tournefort, *Saxifraga verna annua humilior*; Gerard, *Paronychia rutaceo folio*; and Parkinſon, *Paronychia foliis inciſis.* It grows naturally in moſt countries of Europe.

CHAP. CCLXXXIX.

SCABIOSA, SCABIOUS.

THE Annuals of this genus are uſually called,

Species.

1. Sweet Scabious.
2. Starry Scabious.
3. Sea Scabious.
4. Tranſylvanian Scabious.
5. Syrian Scabious.
6. Montpelier Scabious.
7. Tartarian Scabious.

Deſcription of Sweet Scabious.

1. Sweet Scabious is a well-known Annual in the flower-garden. The leaves are long, and variouſly jagged or cut into many ſegments. The ſtalks are ſlender, branching, and a yard high. The flowers come out from the ends and ſides of the branches on long footſtalks; they are uſually of a blackiſh-purple colour, appear in June, and continue in ſucceſſion until the autumn.

The varieties of this ſpecies are numerous; ſuch as,

Varieties.

The Red,
The White,
The Pale-Purple,
The Deep-Purple,
The Black,
The Striped,
The Hen and Chickens, &c.

All theſe varieties will occaſionally ariſe from the ſame kind of ſeed, though the Blackiſh-purple is the moſt prevailing colour, and of which the far greateſt ſhare of the young plants will conſiſt.

Culture.

As this ſpecies is extremely hardy, it is beſt treated as a Biennial. Sow the ſeeds, therefore, the firſt week in June, in a bed of common earth made fine; and let the bed be ſhaded and frequently watered, in order to bring the ſeeds up. After their appearance, they muſt be thinned where they are too cloſe, kept clean from weeds, watered in dry weather all ſummer, and in the autumn may be removed to the places where they are deſigned to remain; they will flower early the ſummer following, continue the blow for many months, and afford plenty of ſeeds for a ſucceſſion.

Theſe plants ſhould be ranged in long beds at a foot and a half diſtance from each other, in order to make the better ſhow; and if they are never removed, they will be ſtronger, and the flowers larger and fairer in proportion.

The ſeeds alſo may be ſown in the ſpring, but then the plants will flower late in the ſummer, and the ſeeds rarely ripen; and if they are brought forward on a hot-bed, they are generally of inferior beauty to ſuch as have all along been in the open ground; ſo that, in order to have theſe plants in perfection, the beſt way will be to treat them as above.

I adviſe the firſt week in June for ſowing the ſeeds, becauſe the plants will then form ſtrong heads by the autumn, and not be forward enough to advance for flowering; and in that ſtate they will ſtand the hardeſt weather. If they are ſown much earlier, the ſtalk will riſe for flowering in the autumn, and then the cold of our winters will be pretty certain to deſtroy them.

Starry Scabious deſcribed.

2. Starry Scabious. The radical leaves are oblong, cut into ſeveral parts, and lie on the ground; thoſe on the ſtalks are ſlender, and elegantly jagged or cut almoſt to the midrib into many fine ſegments. The ſtalks are hairy, branching, and three feet high. The flowers come out from the tops of the plant on long footſtalks; the florets are large, and ſtar-ſhaped; they are of a pale-purple colour, appear in July, and the ſeeds ripen in the autumn.

Culture.

This plant is raiſed by ſowing the ſeeds, like the former, in beds of light earth, in the places where they are to remain; and after they come up, they will require no trouble, except thinning them to proper diſtances, and keeping them clean from weeds.

Sea,

3. Sea Scabious. The ſtalks are ſlender, branching, and eight or ten inches high. The lower leaves are pinnated, but the upper ones are narrow, and entire. The flowers come out from the tops of the ſtalks on ſlender footſtalks; they are ſmall, and of a purpliſh colour; they appear in July and Auguſt, and the ſeeds ripen in the autumn.

If the ſeeds of this ſpecies are permitted to ſcatter, there will be plants enough for a ſucceſſion without further trouble.

Tranſylvanian,

4. Tranſylvanian Scabious. The ſtalk is branching, and four or five feet high. The radical leaves are lyre-ſhaped, hairy, and thoſe on the ſtalks are pinnatifid, narrow, and hairy. The flowers come out from the ends and ſides of the branches on footſtalks; they are ſmall, and of a pale-purple colour; they appear in July, and the ſeeds ripen in the autumn.

If the ſeeds of this ſpecies are permitted to ſcatter, plants enough for a ſucceſſion will ariſe, which will call for no trouble, except thinning them to proper diſtances, and keeping them clean from weeds.

and Syrian Scabious deſcribed.

5. Syrian Scabious. The ſtalk is tough, divides by pairs, and grows to be two feet high. The leaves are ſpear-ſhaped, moderately broad, and of a whitiſh-green colour. The flowers come out from the tops of the plant on ſlender footſtalks; they are the colour of an Amethyſt, and very beautiful; they appear in July and Auguſt, and the ſeeds ripen in the autumn.

There is a variety of this ſpecies with white flowers.

Deſcription of Montpelier Scabious.

6. Montpelier Scabious. The ſtalks are herbaceous, tender, ſend forth a few ſpreading branches, and grow to two feet high. The radical leaves are oval, obtuſe, rough, and ſerrated on their edges; thoſe on the ſtalks are ſpear-ſhaped, long, and embrace the ſtalk with their baſe. The flowers come out from the ends and ſides of the branches on ſlender footſtalks; they are of a red colour, appear in July and Auguſt, and the ſeeds ripen in the autumn.

There is a variety of this ſpecies with purple flowers.

Theſe laſt two ſorts will riſe freely from ſcattered ſeeds in the garden.

Deſcription of Tartarian Scabious. 7. Tartarian Scabious. The ſtalks are thick, ſtrong, hiſpid, branching, and four or five feet high. The lower leaves are large, ſpear-ſhaped, pinnatifid, and ſeven inches long. The leaves on the middle parts of the plant are ſmaller, and ſerrated on the edges; thoſe on the upper parts are narrow, and entire. The flowers come out from the ends and ſides of the branches on naked footſtalks; they are of a white colour, appear in July and Auguſt, and the ſeeds ripen in the autumn.

Method of propagation. This ſpecies is a Biennial, and ſhould be raiſed like the firſt ſort; and after it has flowered and ſhed the ſeeds, plants in plenty will ariſe for a ſucceſſion, requiring no trouble except hoeing them up where they are in improper places, and keeping them clean from weeds.

Titles.

Atropurpurea. 1. Sweet Scabious is titled, *Scabioſa corollulis quinquefidis foliis diſſectis, receptaculis florum ſubulatis.* Caſpar Bauhine calls it, *Scabioſa peregrina rubra, capite oblongo*; and Cluſius, *Scabioſa VI. Indica.* It grows naturally in India.

Stellata. 2. Starry Scabious is, *Scabioſa corollulis quinquefidis, foliis diſſectis, receptaculis florum ſubrotundis.* Cluſius calls it, *Scabioſa major Hiſpanica*; Caſpar Bauhine, *Scabioſa ſtellata, folio laciniato, major*; alſo, *Scabioſa ſtellata, folio laciniato, minor*; alſo, *Scabioſa ſtellata minima.* It grows naturally in Spain.

Maritima. 3. Sea Scabious is, *Scabioſa corollulis quinquefidis radiantibus calyce brevioribus, foliis pinnatis: ſummis linearibus integerrimis.* John Bauhine calls it, *Scabioſa maritima parva*; and Boccone, *Scabioſa maritima, rutæ caninæ folio.* It grows naturally in Sicily and the South of France.

4. Tranſylvanian Scabious is, *Scabioſa corollulis quadrifidis æqualibus calycibus ariſtatis, foliis radicalibus lyratis, caulinis pinnatifidis.* Herman calls it, *Scabioſa altiſſima annua, foliis agrimoniæ nonnihil ſimilibus.* It grows naturally in Tranſylvania. Transylvanica.

5. Syrian Scabious is, *Scabioſa corollulis quadrifidis æqualibus, calycibus ariſtatis, caule dichotomo, foliis lanceolatis.* Caſpar Bauhine calls it, *Scabioſa fruticans latifolia alba*; and Vaillant, *Scabioſa perſicæ folio, flore amethyſtino.* It grows naturally in Syria. Syriaca.

6. Montpelier Scabious is, *Scabioſa corollulis quadrifidis radiantibus, foliis radicalibus, ovatis ſerratis, rameis lanceolatis, caule herbaceo.* Sauvages calls it, *Scabioſa corollis quadrifidis, foliis omnibus lanceolatis ſerratis*; Magnol, *Scabioſa annua integrifolia, ſ. foliis bellidis*; Caſpar Bauhine, *Scabioſa montana latifolia non laciniata rubra*; and Cluſius, *Scabioſa latifolia, purpuraſcente flore.* It grows naturally about Montpelier and in Switzerland. Integrifolia.

7. Tartarian Scabious is, *Scabioſa corollulis quadrifidis radiantibus, caule hiſpido, foliis lanceolatis pinnatifidis: lobis imbricatis.* In the *Act. Upſal.* it is termed, *Scabioſa floſculis quadrifidis, foliis pinnatifidis: laciniis lateralibus erectiuſculis.* Ray calls it, *Scabioſa altiſſima ſegetum.* It grows naturally in Tartary. Tatarica.

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CHAP CCXC.

SCANDIX, SHEPHERD's NEEDLE, or VENUS' COMB.

BESIDES the Sweet Chervil of our Kitchen Gardens, there are of this genus the following Annuals:

Species.
1. Common Shepherd's Needle, or Venus' Comb.
2. Rough-ſeeded Wild Chervil.
3. Smaller Shepherd's Needle of Crete.
4. Sicilian Shepherd's Needle.
5. Oriental Shepherd's Needle.

The firſt two ſorts deſcribed. 1, 2. The firſt two ſorts grow naturally in many parts of England, and are generally extirpated as weeds from our gardens; but the others being of foreign growth, a few plants of each ſort may be admitted, though they are poſſeſſed of very few charms to recommend them.

Smaller, 3. Smaller Shepherd's Needle of Crete is a low branching plant, about half a foot high. The leaves are compoſed of a multitude of ſmall, narrow ſegments. The flowers terminate the ſtalks in umbels; they are ſmall, and of a white colour; they will be in blow in June, and ripen their awl-ſhaped, rough ſeeds in July or Auguſt.

4. Sicilian Shepherd's Needle. This plant hath a very rough, prickly ſtalk, with large, ſwelling joints. The leaves are divided or cut into many parts. The flowers are produced from the tops of the branches in trifid umbels; they will be in blow in July, and ripen their long, cylindrical, rough ſeeds in Auguſt. Sicilian,

5. Oriental Shepherd's Needle. This plant riſes with a branching ſtalk to the height of about a foot. The leaves are beautifully divided into many parts, and adorn the plant ſingly at the joints. The flowers grow in umbels at the tops of the ſtalks; they are of a white colour, moderately large, and the petals are heart-ſhaped. It flowers in July, and the ſeeds ripen in Auguſt. and Oriental Shepherd's Needle deſcribed.

Theſe ſorts are eaſily propagated by ſowing the ſeeds, the beſt time for which is the autumn, ſoon after they are ripe, and they will flower early the ſummer following. When the plants come up, they will call for no trouble, except keeping them clean from weeds, and thinning them where they appear too cloſe. If the ſeeds are ſown in the ſpring, the beds ſhould be frequently watered, Culture.

tered, if the weather ſhould prove dry, or they will remain a long while in the ground before they come up. After you have once got a ſtock of theſe plants, they will continue the ſucceſſion by the ſeeds ſowing themſelves, which will come up and call for no trouble, except thinning and weeding as before.

Titles. Pecten. 1. Common Shepherd's Needle, or Venus Comb, is titled, *Scandix ſeminibus lævibus roſtro longiſſimo.* Caſpar Bauhine calls it, *Scandix, ſemine roſtrato, vulgaris*; and Cammerarius, *Pecten Veneris.* It grows naturally among corn in England, Germany, Portugal, and Spain.

Anthriscus. 2. Rough-ſeeded Wild Chervil is; *Scandix ſeminibus ovatis hiſpidis, corollis uniformibus, caule lævi.* In the *Hortus Cliffort.* it is termed, *Scandix ſeminibus hiſpidis.* Caſpar Bauhine calls it, *Myrrhis ſylveſtris, ſeminibus aſperis*; and Columna, *Myrrhis ſylveſtris æquicolorum.* It grows naturally in England, and moſt countries of Europe.

3. Smaller Shepherd's Needle of Crete is, *Scandix ſeminibus ſubulatis hiſpidis, floribus radiatis, caulibus lævibus.* Sauvages calls it, *Scandix ſeminibus roſtratis patulis pedunculo brevioribus*; Caſpar Bauhine, *Scandix Cretica minor*; and Columna, *Aniſomarathrum.* It grows naturally in Crete, France, and Italy. Australis.

5. Sicilian Shepherd's Needle is, *Scandix ſeminibus ſubcylindricis hiſpidis, caule hiſpido, geniculis tumidis.* In the *Hortus Cliffort.* it is termed, *Chærophyllum articulis tumidis, umbellâ univerſali trifidâ.* Moriſon calls it, *Cerefolium annuum nodoſum, ſemine aſpero majore.* It grows naturally in Sicily. Nodosa.

5. Oriental Shepherd's Needle is, *Scandix ſeminibus pedunculo villoſo brevioribus.* Tournefort calls it, *Scandix orientalis, flore maximo.* It grows naturally in the Eaſt. Grandiflora.

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C H A P. CCXCI.

SCIRPUS, RUSH-GRASS.

THERE is one ſhort-lived ſpecies of this genus, called, The Leaſt Ruſh.

The plant deſcribed. The ſtalk is ſlender, naked, ſetaceous, and three or four inches high. The flowers come out in ſhort ſpikes from the ſides of the ſtalks near the top; they are of a brown colour, appear in July and Auguſt, and the ſeeds ripen in September.

Culture. This ſpecies is not cultivated, and is generally held as a baſe herb, below the notice of any, except thoſe who have a general thirſt after botanical knowledge. It grows naturally in moiſt, ſandy places; and if a perſon is deſirous of a few plants to be ready for obſervation, ſow the ſeeds in the autumn, as ſoon as they are ripe, and they will flower the ſummer following, and perfect their ſeeds.

Titles. Setaceus. This ſpecies is titled, *Scirpus culmo nudo ſetaceo, ſpicis lateralibus ſubfoliatis ſeſſilibus.* Van Royen calls it, *Scirpus culmo nudo ſetaceo, ſpicis pedunculatis*; Tournefort, *Scirpus omnium minimus, capitulo breviori*; Caſpar Bauhine, *Juncus mutilis ſ. chamæſchænus*; alſo, *Gramen junceum minimum, capitulo ſquamato*; Moriſon, *Juncus omnium minimus*; and Parkinſon, *Gramen junceum maritimum exile Plimmoſtii.* It grows naturally on the ſea-ſhores, and in moiſt, ſandy places in England, and moſt countries of Europe.

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C H A P. CCXCII.

SCLERANTHUS, GERMAN KNOT-GRASS, or KNAWEL.

THERE are two Annuals of this genus, called,

Species.
1. Common German Knot-Graſs, or Knawel.
2. Italian Knawel.

Common German Knot-Graſs deſcribed. 1. Common German Knot-Graſs, or Knawel. The ſtalks are round, jointed, ſlender, branching, and hoary. The leaves are narrow, of a pale-green colour, hoary underneath, and of unequal ſize; but two, which are longeſt, uſually grow oppoſite to each other at the joints. The flowers come out from the ends and ſides of the ſtalks; they are ſmall, and of a greeniſh-white colour; they appear in July and Auguſt, and the ſeeds ripen in the autumn.

Italian Knawel deſcribed.

2. Italian Knawel. The ſtalks are round, ſlender, jointed, hairy, branching, and lie on the ground. The leaves are narrow, pointed, of a pale-green colour, and grow in pairs. The flowers are produced from the ends and ſides of the branches; they are ſmall, and of a greeniſh colour; they appear in July and Auguſt, and the ſeeds ripen in the autumn.

Culture.

Theſe ſorts are propagated by ſowing the ſeeds in the autumn, as ſoon as they are ripe, or the ſpring following, in the places where they are to remain. When they come up, they will require no trouble, except keeping them clean from weeds; and after they have flowered, and the ſeeds are ſcattered, plants enough for a ſucceſſion will ariſe without further trouble.

Titles. Annuus.

1. The firſt ſpecies is titled, *Scleranthus calycibus fructûs patulis*. In the *Hortus Cliffort.* it is termed ſimply, *Scleranthus*. Caſpar Bauhine calls it, *Polygonum, gramineo folio, majus erectum*; alſo, *Polygonum anguſtiſſimo & gramineo folio, minus repens*; and Tabernæmontanus, *Polygonum minus alterum*. It grows naturally in light, ſandy ſoils in England, and moſt countries of Europe.

Polycarpos.

2. The ſecond ſpecies is, *Scleranthus calycibus fructûs patentiſſimis ſpinoſis, caule ſubvilloſo*. Dalechamp calls it, *Polycarpos*; Caſpar Bauhine, *Polygonum montanum vermiculatæ foliis*; and Columna, *Vermiculata nova planta*. It grows naturally in Italy, and the South of France.

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CHAP. CCXCIII.

SCOLYMUS, GOLDEN THISTLE.

THE ſhort-lived ſpecies of this genus is uſually called, The Annual Golden Thiſtle.

The plant deſcribed.

The root is thick, fleſhy, of a yellowiſh-green colour, and full of a milky juice. The ſtalks are upright, branching, have leafy, prickly wings, or borders running from joint to joint, and grow to be four feet high. The leaves are oblong, ſtiff, jagged or ſinuated on their edges, prickly, of a pale-green colour, frequently ſpotted or blotched with white, and ſit cloſe to the ſtalks. The flowers come out from the tops of the ſtalks; they are of a golden-yellow colour, appear in July and Auguſt, and the ſeeds ripen in the autumn.

Culture.

This plant is raiſed by ſowing the ſeeds early in the ſpring, in the places where they are to remain. The ground ſhould be double-dug, in order to make room for their roots, which ſtrike deep into the ground. After the plants come up, they will require no trouble, except thinning them where they are too cloſe, and keeping them clean from weeds.

If the ſeaſon ſhould prove very wet when they are in flower, it would be adviſeable to cover a few flowers with glaſſes, the more effectually to procure good ſeeds for a ſucceſſion; as in cold, wet, and damp ſeaſons, they rarely ripen without ſuch aſſiſtance.

Titles. Maculatus.

This ſpecies is titled, *Scolymus foliis margine attenuatis*. In the *Hortus Cliffort.* it is termed ſimply, *Scolymus*; in the *Hortus Upſal. Scolymus annuus*. Dodart calls it, *Scolymus chryſanthemus annuus*; and Cluſius, *Scolymus Theophraſti Narbonenſis*. It grows naturally in France and Italy.

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CHAP. CCXCIV.

SCOPARIA.

THERE are only two ſpecies of this genus, called,

Species.

1. Sweet *Scoparia*.
2. Procumbent *Scoparia*.

Deſcription of Sweet

1. Sweet *Scoparia*. The ſtalk is upright, ſhrubby, hexangular, branching, and three or four feet high. The leaves are ſomewhat hairy, and grow by threes on the branches. The flowers are produced on footſtalks at the upper parts of the ſhoots; they are of a white colour, appear in Auguſt, and the ſeeds ripen in the autumn.

and Procumbent Scoparia.

2. Procumbent *Scoparia*. The ſtalk is tender, branching, and procumbent. The leaves ſurround it by fours at the joints. The flowers ſit cloſe to the ſides of the branches, having no footſtalks; they appear in Auguſt and September, and the ſeeds ripen in the autumn.

Culture.

Theſe plants are raiſed by ſowing the ſeeds early in the ſpring, on a good hotbed. When the plants are fit to remove, they muſt be potted ſeparately,

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ſeparately, and plunged into a freſh hot bed, and watered and kept ſhaded until they have taken root. They muſt then have a large ſhare of air admitted to them by degrees, but be not wholly expoſed to the full air at preſent; and when the roots have filled the pots, they muſt be ſhifted into others a ſize larger. They muſt be next plunged again in the hotbed, watered and ſhaded as before, and hardened by degrees to the full air. When this is effected, a ſhare of them may be turned out, with the mould at the roots, into ſome warm border, where they will flower and perfect their ſeeds; leaving, nevertheleſs, a few plants ſtill in the hotbed, to be covered with the glaſſes in caſe much rain or cold weather ſhould happen in the autumn, the more effectually to ſecure good ſeeds for a ſucceſſion.

Titles.

Dulcis

1. The firſt ſpecies is titled, *Scoparia foliis ternis, floribus pedunculatis.* In the *Hortus Cliffort.* it is termed, *Capraria foliis ternis, corollis quadripartitis.* Boerhaave calls it, *Samoloides*; Herman, *Veronica Americana erecta fruteſcens & ramoſa*; Sloane, *Veronica fruticoſa erecta dulcis, hexangulari caule*; and Plukenet, *Phyteuoides Americanum, flore albo tetrapetalo.* It grows naturally in Jamaica and Curaſſao.

Procumbens.

2. The ſecond ſpecies is, *Scoparia foliis quaternis, floribus ſeſſilibus.* It grows naturally in moſt of the warm parts of America.

Claſs and order in the Linnæan Syſtem. The characters.

Scoparia is of the claſs and order *Tetrandria Monogynia*; and the characters are,

1. CALYX is a monophyllous, concave perianthium, divided into four ſlender, rough ſegments.

2. COROLLA is one rotated, patent, concave petal, divided into four tongue-ſhaped, obtuſe, equal ſegments.

3. STAMINA are four awl-ſhaped, equal filaments ſhorter than the corolla, having ſimple antheræ.

4. PISTILLUM conſiſts of a conical germen, an awl-ſhaped permanent ſtyle the length of the corolla, and an acute ſtigma.

5. PERICARPIUM is an oblong, conical, acuminated capſule, formed of two valves, and containing one cell.

6. SEMINA. The ſeeds are many, and oblong.

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CHAP. CCXCV.

SCORPIURUS, CATERPILLAR.

THIS genus comprehends four diſtinct ſpecies of Caterpillars, called,

Species.

1. Common Caterpillar, with one Flower on a Footſtalk.
2. Two-flowered Caterpillar.
3. Three-flowered Caterpillar.
4. Four-flowered Caterpillar.

Deſcription of Common,

1. Common Caterpillar. This ſpecies produces numerous flowers from the ſides of the ſtalks, but is diſtinguiſhed from the others by the name of One-flowered Caterpillar, becauſe one flower only crowns the top of each footſtalk. The ſtalks are herbaceous, tender, trailing, and about a foot and a half long. The leaves are ſpatule-ſhaped, oblong, obtuſe, and grow ſingly at the joints on long footſtalks. The flowers are produced ſingly from the wings of the leaves on very long footſtalks; they are of a yellow colour, appear in July and Auguſt, and are ſucceeded by contorted pods, reſembling caterpillars, containing ripe ſeeds in September.

Two-flowered,

2. Two-flowered Caterpillar. The ſtalks are herbaceous, thick, jointed, branching, and trailing. The leaves are oblong, broad, obtuſe, and of a blueiſh-green colour. The flowers grow two together on footſtalks, ariſing from the wings of the leaves; they are ſmall, and of a yellow colour; they appear in July, and are ſucceeded by long, rough, twiſted pods, containing ripe feeds in September.

Three-flowered,

3. Three-flowered Caterpillar. The ſtalks are ſlender, herbaceous, and trailing. The leaves are oblong, obtuſe, and grow upon footſtalks at the joints. The flowers are for the moſt part three together on ſlender footſtalks, ariſing from the wings of the leaves; they are of a yellow colour, appear in July, and are ſucceeded by ſlender pods, which are armed with diſtinct ſharp ſpines on their outſide.

and Four-flowered Caterpillar.

4. Four-flowered Caterpillar. The ſtalks are herbaceous, trailing, and a foot and a half long. The leaves are oblong, obtuſe, and grow ſingly at the joints on long footſtalks. The flowers are uſually four at the top of each footſtalk, which is very long and ſlender; they are ſmall, and of a yellow colour; they appear in July, and are ſucceeded by ſlender, contorted pods, which are guarded by ſharp ſpikes, collected in cluſters on their outſide.

Culture.

Theſe are hardy Annuals, and are propagated by ſowing the ſeeds, in almoſt any ſoil or ſituation, in the places where they are to remain. The ſowing may be performed in the autumn or ſpring; and after the plants come up, they will require no trouble, except thinning them where they are too cloſe, and keeping them clean from weeds.

Theſe are plants of very little beauty, but they are found in moſt collections of Annuals, and are propagated chiefly on account of the ſingularity of their pods, which have the appearance of caterpillars feeding upon the plants.

Titles.

Vermiculata

1. The firſt ſpecies is titled, *Scorpiurus pedunculis unifloris, leguminibus tectis undique ſquamis obtuſis.* Tournefort calls it, *Scorpioides ſiliquâ craſſâ Boelii*; and Moriſon, *Scorpioides bupleuri folio, corniculis craſſioribus & magis ſpongioſis inſtar litui contortis & in ſe convolutis.* It grows naturally in moſt of the ſouthern parts of Europe.

Muricata.

2. The ſecond ſpecies is, *Scorpiurus pedunculis bifloris, leguminibus extrorſum obtuſe aculeatis.* Moriſon calls it, *Scorpioides bupleuri folio, corniculis aſperis & rugoſis ſtrigidis, ſtriatis ſ. ſulcatis litui inſtar*

inſtar contortis & in ſe convolutis. It grows naturally in the ſouth of Europe.

Sulcata. 3. The third ſpecies is, *Scorpiurus pedunculis ſubtrifloris, leguminibus extrorſum ſpinis diſtinctis acutis.* In the *Hortus Cliffort.* it is named ſimply, *Scorpiurus.* Caſpar Bauhine calls it, *Scorpioides bupleuri folio*; and Dodonæus, *Scorpioides prius.* It is common in the ſouth of Europe.

Subvillosa. 4. The fourth ſpecies is, *Scorpiurus pedunculis ſubquadrifloris, leguminibus extrorſum ſpinis confertis acutis.* Moriſon calls it, *Scorpioides bupleuri folio, corniculis aſperis magis in ſe contortis & convolutis.* It grows common in the ſouth of Europe.

Claſs and order in the Linnæan Syſtem. The characters.

Scorpiurus is of the claſs and order *Diadelphia Decandria*; and the characters are,

1. CALYX is a monophyllous, inflated, erect, ſlightly compreſſed perianthium, cut into five acute ſegments.

2. COROLLA is papilionaceous. The vexillum is roundiſh, emarginated, ſpreading, and reflexed. The alæ are looſe, and nearly oval. The carina is ſemilunulated, acuminated, erect, and divided below into two parts.

3. STAMINA are diadelphous filaments, (one ſtanding ſingle, and nine joined in a body) having ſmall antheræ.

4. PISTILLUM conſiſts of an oblong, taper, and ſomewhat reflexed germen, and a riſing, inflexed ſtyle, terminated by a punctum.

5. PERICARPIUM is an oblong, taper, coriaceous, ſtriated, rough, revoluted pod, divided into many tranſverſe cells.

6. SEMINA. The ſeeds are ſingle, and roundiſh.

CHAP. CCXCVI.

SCORZONERA, VIPER's GRASS.

Species.

THE ſpecies of this genus that are of ſhort duration, are,

1. The Jagged-leaved German Viper's Graſs.
2. The Tangier Viper's Graſs.
3. The Montpelier Viper's Graſs.

Deſcription of Jagged-leaved German,

1. The Jagged-leaved German Viper's Graſs riſes with an upright ſtalk to about two feet high. The leaves are much jagged, or cut into ſeveral acute ſegments. The flowers are produced from the ends of the branches on long, naked foot-ſtalks; they will be in-blow in June or July, and ripen their ſeeds about a month after.

Tangier,

2. Tangier Viper's Graſs. This plant will grow to near a yard in height. The leaves are very large, and embrace the ſtalk with their baſe; they are indented in the manner of ſome of our poppies, and the ſegments turn backward. The flowers grow ſingly from the tops of the branches; their colour is yellow; they will be in blow in July or Auguſt, and ripen their ſeeds in September.

and Montpelier Viper's Graſs.

3. Montpelier Viper's Graſs. The ſtalk is upright, firm, and branching. The lower leaves are of an oval, oblong figure, and deeply indented; thoſe on the upper parts of the plant are ſpear-ſhaped, entire, and embrace the ſtalk with their baſe. The flowers grow ſingly on long, ſquamoſe footſtalks, and they are ſucceeded by incurved, crenulated ſeeds, crowned with ſimple, ſeſſile down.

Method of propagation.

The firſt of theſe ſpecies is a Biennial, ſo that the ſeeds ſhould be ſown in April or May; and with the uſual care of thinning them where they come up too cloſe, keeping them clean from weeds, and watering them in dry weather, they will flower ſtrong the ſummer following.

The other two ſpecies, being Annuals, ſhould be ſown earlier in the ſpring. The time ſhould be in March, or beginning of April at fartheſt. They ſhould be all ſown in the places where they are to remain; the ground ſhould be rich and good; and by watering them in dry weather, they may be brought to flower early, and to perfect their ſeeds with greater certainty.

Titles.

1. The Jagged-leaved German Viper's Graſs is titled, *Scorzonera foliis linearibus dentatis acutis, caule erecto*; *ſquamis calycinis patulo-mucronatis.* Laciniata. Tournefort calls it, *Scorzonera foliis laciniatis*; and Caſpar Bauhine, *Tragopogon laciniatum luteum.* It grows naturally in Germany.

2. Tangier Viper's Graſs is, *Scorzonera foliis omnibus runcinatis amplexicaulibus.* Tingitana. In the *Hortus Upſal.* it is termed, *Scorzonera foliis omnibus extrorſum dentatis amplexicaulibus, ſquamis calycinis margine membranaceis*; in the *Hortus Cliffort. Sonchus floribus ſolitariis, foliorum laciniis extrorſum flexis.* Ray calls it, *Sonchus Tingitanus papaveris folio*; and Herman, *Chondrilla Tingitana, floribus luteis papaveris hortenſis folio.* It grows naturally in Mauritania.

3. Montpelier Viper's Graſs is, *Scorzonera foliis ſuperioribus amplexicaulibus integerrimis, inferioribus runcinatis, pedunculis ſquamatis.* Picroides. Van Royen calls it, *Crepis foliis radicalibus ovato-oblongis denticulatis, caulinis lanceolatis amplexicaulibus, pedunculis unifloris ſquamoſis*; Plukenet, *Sonchus ſubrotundo folio noſtras*; and Caſpar Bauhine, *Sonchus lævis anguſtifolius.* It grows naturally near Montpelier in France.

CHAP.

C H A P. CCXCVII.

SCROPHULARIA, FIG-WORT.

Species. THE ſhort-lived ſpecies of this genus are,
1. Common Fig-wort, or Dog's Rue.
2. Yellow Fig-wort.
3. Trifoliate Fig-wort.

Deſcription of Common, 1. Common Fig-wort, or Dog's Rue. The ſtalk is ſlender, upright, four-cornered, and about two feet high. The lower leaves are pinnated, and grow oppoſite; but the upper ones are entire, and placed alternately. The flowers come out from the tops in long, looſe, naked ſpikes; they are of a dark-purple colour, having a mixture of green; they appear in June and July, and the ſeeds ripen in Auguſt.

Yellow, 2. Yellow Fig-wort. The ſtalk is thick, ſquare, upright, hairy, and three or four feet high. The leaves are heart-ſhaped, broad, hairy, and of a pale-green colour; the lower ones grow oppoſite to each other on long, hairy footſtalks, and the upper ones are placed by threes round the ſtalk. The flowers come out, two or three together, on footſtalks from the wings of the leaves, a great way down the upper parts of the ſtalks; they are of a yellow colour, appear in May, and the ſeeds ripen in July.

and Trifoliate Fig-wort. 3. Trifoliate Fig-wort. The ſtalks are upright, ſtrong, and three feet high. The lower leaves are compoſed of three obtuſe lobes, but the upper ones are ſimple; they are ſmooth, of a thickiſh ſubſtance, and of a dark-green colour. The flowers come out three or four together on footſtalks, which ariſe from the wings of the leaves a great way down the upper parts of the ſtalks; they are of a pale-yellow colour, having a mixture of red; they appear in May and June, and the ſeeds ripen in July.

Culture. All theſe ſorts are Biennials, ſo that the ſeeds muſt be ſown as ſoon as they are ripe, otherwiſe they will not flower the ſummer following. The firſt two ſorts may be ſown in any common mould, and the plants will ſoon come up and ſtand the winter well, and flower and perfect their ſeeds the ſummer following. But ſome plants of the third ſort muſt be ſet in pots, to be preſerved in the green-houſe; for it is too tender to live abroad through our hard winters. Early in May they may be ſet abroad in ſome warm, well-ſheltered place; and by turning the mould out of the pots with the roots, the ſtalks will advance ſtronger for flowering, and the flowers will be longer and fairer, than if the roots had been continued confined in the pots.

Titles. 1. Common Fig-wort, or Dog's Rue, is titled, *Scrophularia foliis pinnatis, racemo terminali nudo, pedunculis bifidis.* Caſpar Bauhine calls it, *Scrophularia ruta canina dicta vulgaris*; and Cluſius, *Ruta canina.* It grows naturally in Helvetia, France, Narbonne, and Italy. Cani=na.

2. Yellow Fig-wort is, *Scrophularia foliis cordatis, pedunculis axillaribus ſolitariis dichotomis.* Caſpar Bauhine calls it, *Scrophularia luteo flore*; and Cluſius, *Lamium Pannonicum* 2. *exoticum.* It grows naturally in England, Italy, Auſtria, and Helvetia. Verna=lis.

3. Trifoliate Fig-wort is, *Scrophularia foliis glabris: inferioribus ternato-pinnatis obtuſis, ſuperioribus ſimplicibus, pedunculis ſubtrifloris axillaribus.* Plukenet calls it, *Scrophularia ſambucifolia, flore rubro luteo vario pulchro*; and Boccone, *Scrophularia ſubrotundo craſſo nigricante folio, flore luteo pallido, capſulâ turgidâ.* It grows naturally in Africa and Corſica. Trifoli=ata.

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C H A P. CCXCVIII.

SECALE, RYE.

OF this genus is that uſeful Annual called Rye. This plant admits of two principal varieties; viz. the Winter Rye, and the Spring Rye, Both of theſe are ſo well known as to need no deſcription; and their culture is ſo univerſally underſtood, and their profits ſo generally experienced in light, poor, hungry, and gravelly ſoils, where Wheat will not thrive, as to need no information.

Titles. Cereale. Its title is, *Secale glumarum ciliis ſcabris.* Caſpar Bauhine calls it, *Secale hybernum vel majus*; alſo, *Secale vernum ſ. minus.* It is not certain where Rye naturally grows.

Claſs and order in the Linnæan Syſtem. *Secale* is of the claſs and order *Triandria Digynia*; and the characters are,

The characters. 1. CALYX is a glume, compoſed of two oppoſite, diſtant, erect, linear, acuminated leaves, ſhorter than the corolla, and containing two flowers.

2. COROLLA conſiſts of two valves; the exterior one is more rigid than the other, ventricoſe, acuminated, compreſſed, ciliated on the border, and terminates in a long ariſta. The interior one is plane and ſpear-ſhaped.

3. STAMINA are three capillary filaments hanging out of the flower, having oblong, furcated antheræ.

4. PISTILLUM conſiſts of a turbinated germen, and two hairy, reflexed ſtyles, with ſimple ſtigmas.

5. PERICARPIUM. There is none. The corolla contains the ſeed, and opens for its diſcharge when ripe.

6. SEMEN. The ſeed is ſingle, oblong, nearly cylindrical, naked, and pointed on one ſide.

CHAP. CCXCIX.

SEDUM, The LESSER HOUSELEEK.

Species.

THE Annuals of this genus are,

1. Prickly or Starry *Sedum.*
2. *Cepæa* Houſeleek.
3. Round-leaved Stone Crop.
4. Mountain Stone Crop.
5. Marſh Stone Crop.
6. Red Stone Crop.
7. Black Stone Crop.

Prickly or Starry Sedum deſcribed.

1. Prickly, or Starry *Sedum.* The ſtalk is tender, ſucculent, divides into a few branches near the top, and grows to about three or four inches high. The leaves are plane, angular, and of a whitiſh-green colour. The flowers come out ſingly from the ſides of the branches, ſitting cloſe, and having no footſtalks; they are ſtar-pointed, of a white colour, appear in July and Auguſt, and are ſucceeded by ſtar-pointed, rough capſules, containing ripe ſeeds in the autumn.

Cepæa Houſeleek deſcribed.

2. *Cepæa* Houſeleek. The ſtalk is branching, and ſix or eight inches high. The leaves are oblong, plane, and of a blueiſh-green colour. The flowers are formed into large panicles at the tops of the ſtalks, are of a white colour, appear in June and July, and the ſeeds ripen in Auguſt.

Deſcription of Round-leaved,

3. Round-leaved Stone Crop. The ſtalk is ſlender, weak, and infirm. The leaves are oval, obtuſe, fleſhy, and grow oppoſite to each other on the ſtalks. The flowers come out thinly from the tops of the ſtalks, are ſmall, of a whitiſh colour, appear in July, and the ſeeds ripen in September.

Mountain,

4. Mountain Stone Crop. The ſtalk is erect, and three or four inches high. The leaves are oval, gibbous, ſeſſile, of a greyiſh colour, and grow alternately. The flowers come out from the tops of the ſtalks in reflexed ſpikes, are ſmall, of a white colour, appear in June and July, and the ſeeds ripen in September.

Marſh,

5. Marſh Stone Crop. The ſtalk is upright, ſlender, ſucculent, of a reddiſh colour, and ſix or eight inches long. The leaves are longiſh, plane, a little rough, and full of juice. The flowers are formed into panicles at the top of the ſtalk, are of a red or purple colour, appear in July, and the ſeeds ripen in Auguſt.

Red,

6. Red Stone Crop. The ſtalk is erect, branching near the top, and about three inches high. The leaves are cylindrical, ſucculent, obtuſe, and grow alternately. The flowers come out in ſmall, erect tufts from the ends of the branches; they are of a reddiſh-purple colour, appear in July, and the ſeeds ripen in Auguſt.

and Black ſtone Crop.

7. Black Stone Crop. The ſtalk is upright, branching, and about three inches high. The leaves are oblong, ſucculent, ſmooth, and obtuſe. The flowers come out in flat bunches from the tops of the ſtalks, and their cups are of a black or very dark-purple colour; the germens have the like blackiſh colour, but the petals are white; they appear in July and Auguſt, and the ſeeds ripen in September.

Culture.

Theſe ſpecies may be raiſed by ſowing the ſeeds in the autumn ſoon after they are ripe, or the ſpring following; and after they have flowered and ſcattered their ſeeds, plants enough for a ſucceſſion will ariſe without further trouble, except hoeing them up where they are in improper places, and keeping them clean from weeds. They will grow on gravelly, ſandy, expoſed places, and will flouriſh on the tops of walls, buildings, moiſt rocks, &c. if required.

Titles.

1. Prickly or Starry *Sedum* is titled, *Sedum foliis planiuſculis angulatis, floribus lateralibus ſeſſilibus ſolitariis.* Caſpar Bauhine calls it, *Cotyledon ſtellata*; John Bauhine, *Sedum echinatum vel ſtellatum, flore albo*; and Columna, *Sempervivum tertium.* It grows naturally in Italy, Gaul, and Switzerland.

Stella-tum.

2. *Cepæa* Houſeleek is, *Sedum foliis planis, caule ramoſo, floribus paniculatis.* Caſpar Bauhine calls it, ſimply, *Cepæa*; Moriſon, *Sedum annuum album, oblongo portulacæ minoris folio.* It grows naturally in Germany and the South of France.

Cepæa.

3. Round-leaved Stone Crop is, *Sedum foliis oppoſitis ovatis obtuſis carnoſis, caule infirmo, floribus ſparſis.* Sauvages calls it, *Sedum foliis cordato-ovatis compreſſis ſæpius oppoſitis, floribus ſparſis*; Wachendorf, *Sedum foliis ſemigloboſis ſubovatis ſeſſilibus quadrifariam imbricatis*; John Bauhine, *Sedum parvum, folio circinato, flore albo*; Caſpar Bauhine, *Sedum minus, folio circinato*; and Dalechamp, *Aizoon daſyphyllum.* It grows naturally in Switzerland, Italy, Spain, and Portugal.

Dasy-phyllum.

4. Mountain Stone Crop is, *Sedum caule erecto annuo, foliis ovatis ſeſſilibus alternis, cymâ recurvâ.* Ray calls it, *Sedum minimum non acre, flore albo.* It grows naturally in moſt of the northern countries of Europe.

Annu-um.

5. Marſh Stone Crop is, *Sedum caule erecto, foliis planiuſculis, pedunculiſque ſubpiloſis.* Caſpar Bauhine calls it, *Sedum paluſtre ſubhirſutum purpureum*; Cluſius, *Sedum minus III. ſ. paluſtre*; and Oeder, *Sedum paluſtre II.* It grows naturally in meadows, moiſt rocks, and mountainous places in England, France, Germany, and the Pyrenees.

Villosum.

6. Red Stone Crop is, *Sedum foliis fuſiformibus ſubdepreſſis, infimis quaternis, cymâ ſubquadrifidâ, floribus pentandris, ſtaminibus reflexis.* Haller calls it, *Sedum foliis oblongè ovatis, floribus in ſummum caulem congeſtis, calyce rubente*; Ray, *Sedum minimum montanum non acre, flore purpuraſcente parvo, ſemine ſtellato*; Caſpar Bauhine, *Sedum ſaxatile, atro-rubentibus floribus*; alſo, *Sedum arvenſe, flore rubente*; alſo, *Sedum minus teretifolium alterum*; alſo, *Sedum minus teretifolium luteum.* Magnol names it, *Sedum annuum minimum ſtellatum rubrum.* It grows naturally in moſt of the ſouthern countries of Europe.

Rubens.

7. Black Stone Crop is, *Sedum erectum, floribus corymboſis faſtigiatis.* It grows naturally on the Alps of Italy.

CHAP. CCC.

SENECIO, GROUNDSEL.

Intro-duction.

THERE is one Annual of this genus with which the Gardener is pretty well acquainted, and which perhaps he would be well pleaſed to have an infallible method of wholly extirpating from his garden. The only method for this is conſtantly to hoe up the young plants before they come to flower, and by ſuch diligence he will find his ſtock every year diminiſh; but ſome plants will continually ariſe in ſome part or other, as their ſeeds, by their downy crowns, are often conveyed to a very great diſtance. Several other Annuals alſo of this genus deſerve the ſame fate; whilſt thoſe worth cultivation are,

Species.

1. The African Radiated Annual Groundſel.
2. The European Radiated Annual Groundſel.
3. The American Annual Grounſel.

Deſcription of the African Radiated,

1. The African Annual Radiated Groundſel riſes with ſeveral herbaceous, branching ſtalks, to the height of about a yard. The leaves are pinnatifid, patent, and equal. The flowers terminate the ſtalks in bunches, are exceedingly elegant, large, and radiated; the rays are of a fine purple colour, but the middle of the flower is yellow. This beautiful Annual will be in blow in July, and continue the ſucceſſion of flowers until the approach of winter. It is almoſt as eaſily propagated as the Common Groundſel; and, like that, it will ſow its own ſeeds, which will conſtantly come up without further trouble.

European Radiated,

2. European Radiated Annual Groundſel. The ſtalk is herbaceous, weak, and branching. The leaves are long, and deeply cut into a multitude of narrow ſegments; their colour is a light-green, with a reddiſh mid-rib; and they are placed without order all over the plant. The flowers come out from the diviſions of the branches on long, hairy footſtalks; the rays are of a fine crimſon colour, but the center is yellow; they will be in blow in July and Auguſt, and ripen their ſeeds in September.

and American Annual Groundſel.

3. American Annual Groundſel. This ſpecies riſes with a round, herbaceous, hairy, erect, channelled ſtalk to the height of about a yard. The leaves are long, embrace the ſtalk with their baſe, and are cut or torn into a multitude of narrow ſegments. The flowers are produced from the tops of the branches; but they are denied that great ornament to theſe kind of flowers, the rays; they are of a dirty-white colour, will be in blow in July, and ripen their ſeeds in September.

Propagation.

The laſt two ſpecies muſt have their ſeeds ſown on a moderate hot-bed in the ſpring. The plants will readily ariſe; and, as they advance, care muſt be taken to prevent their drawing up weak. Where they come up too cloſe, they muſt be thinned, be hardened to the air when the weather will permit, and have frequent, though moderate waterings. Here they may remain until all danger of bad weather is over; and after that, on ſome moiſt day, take up the plants, with a ball of earth to each root, and remove them to the places where they are deſigned to flower: This ſhould be ſome warm border, and full upon the ſun, for the greater certainty of having their ſeeds perfected in the autumn.

The firſt two ſpecies are very beautiful Annuals; but the third, having no rays to the flowers, is ſcarcely worth propagating.

Titles.

1. The firſt ſpecies is titled, *Senecio corollis radiantibus, foliis pinnatifidis æqualibus patentiſſimis, rachi infernè anguſtatâ.* Commeline calls it, *Aſter Africanus annuus, ſenecionis foliis*; Volkamer, *Jacobæa Africana luteſcens, flore amplo purpureo elegantiſſimo, ſenecionis folio.* It grows naturally in Æthiopia. Elegans,

2. The ſecond ſpecies is, *Senecio corollis radiantibus, foliis pinnatifidis, laciniis linearibus.* It grows naturally in moſt of the ſouthern parts of Europe.

3. The third ſpecies is, *Senecio corollis nudis, foliis amplexicaulibus laceris, caule herbaceo erecto.* In the *Hortus Cliffort.* it is termed, *Senecio foliis lanceolatis amplexicaulibus lævibus, acutè ſinuatis denticulatis, caule herbaceo.* Herman calls it, *Senecio Americanus altiſſimus, blattariæ ſive hieracii folio.* It grows naturally in North-America. Hieracifolius.

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CHAP. CCCI.

SESAMUM, OILY PURGING GRAIN.

THERE are two ſpecies of this genus, called,

Species.

1. Oriental *Seſamum.*
2. Indian *Seſamum.*

Oriental

1. Oriental *Seſamum.* The ſtalk is thick, herbaceous, firm, ſquare, and two feet high. The leaves are oblong, oval, entire, and grow oppoſite to each other. The flowers are produced in looſe ſpikes from the tops of the ſtalks, and reſemble in ſhape thoſe of the Fox-glove, but are white within; they appear in July and Auguſt, and the ſeeds ripen in the autumn.

and Indian Seſamum deſcribed.

2. Indian *Seſamum.* The ſtalks are herbaceous, upright, ſquare, firm, and two or three

feet high. The leaves are of an oval, oblong figure; but the lower ones are cut into three parts. The flowers are produced from the tops of the ſtalks in looſe ſpikes, are of a whitiſh colour, appear in July and Auguſt, and the ſeeds ripen in the autumn.

Uſes of the ſeeds.

The ſeeds of theſe plants afford a prodigious quantity of oil, which was formerly kept in the ſhops, but is now diſuſed. The oil, when old, becomes mild, and by ſome is preferred before ſweet-oil to be eat with ſallads. In India the ſeeds are eat as food, after parching them over the fire, or making them into puddings in the manner of rice, &c.

Culture.

They are raiſed by ſowing the ſeeds on a hot-bed early in the ſpring. When they are fit to remove, each plant ſhould be ſet in a ſeparate pot filled with light, rich earth. They muſt be then plunged into a bark-bed, and watered and ſhaded until they have taken root: After this, they muſt have more air, and be hardened by degrees to the open air, when a ſhare of them may be ſet abroad in ſome warm, well-ſheltered place; but a few of the ſtrongeſt plants ſhould be kept ſtill in the bed for ſeed, which ſeldom ripens well, unleſs the plants are continued under the glaſſes.

Titles.

Orientale.

1. The firſt ſpecies is titled, *Seſamum foliis ovato-oblongis integris.* Van Royen calls it, *Seſamum pedunculo inter duas glandulas*; Caſpar Bauhine, *Seſamum veterum*; and Tournefort, *Digitalis Orientalis ſeſamum dicta.* It grows naturally in Ceylon and Malabar.

Indicum.

2. The ſecond ſpecies is, *Seſamum foliis inferioribus trifidis.* Rumphius calls it, *Seſamum Indicum*; and Plukenet, *Seſamum alterum, foliis trifidis, Orientale, ſemine obſcuro.* It grows naturally in India.

Claſs and order in the Linnæan Syſtem. The characters.

Seſamum is of the claſs and order *Didynamia Angioſpermia*; and the characters are,

1. CALYX is a very ſhort, monophyllous, upright, permanent perianthium, divided into five ſpear-ſhaped ſegments.

2. COROLLA is one bell-ſhaped petal. The tube is roundiſh, and almoſt the length of the calyx. The mouth is inflated, bell-ſhaped, ſpreading, and large. The limb is cut into five ſegments, four of which are ſpreading, and nearly equal; the fifth is twice the length of the others, oval, and ſtraight.

3. STAMINA are four ſetaceous, riſing filaments ſituated in the tube of the flower, of which the two interior ones are the ſhorteſt, having oblong, acute, erect antheræ.

4. PISTILLUM conſiſts of an oval, hairy germen; a filiform, riſing ſtyle a little longer than the ſtamina; and a ſpear-ſhaped ſtigma divided into two parallel parts.

5. PERICARPIUM is an oblong, obſcurely four-cornered, compreſſed, acuminated capſule, containing four cells.

6. SEMINA. The ſeeds are many, and nearly oval.

CHAP. CCCII.

SESELI.

Species.

OF this genus there are two known Annuals, called,

1. Annual *Seſeli.*
2. Small Portugal *Seſeli.*

Deſcription of Annual

1. Annual *Seſeli.* The ſtalk is upright, branching, and about two feet high. The leaves are divided into a multitude of narrow parts; and there is a ventricoſe, indented membrane, embracing the footſtalk of each leaf or branch. The flowers come out in umbels from the tops of the ſtalks, are of a white colour, appear in June and July, and the ſeeds ripen in Auguſt.

and Small Portugal Seſeli.

2. Small Portugal *Seſeli.* The ſtalk riſes to about four inches high. The leaves are compoſed of a multitude of narrow parts, are of a very acrid taſte, and have no membrane at the baſe of their footſtalks. The flowers come out from the tops of the ſtalks in ſmall umbels, appear in July and Auguſt, and the ſeeds ripen in the autumn.

Culture.

Theſe ſpecies are propagated by ſowing the ſeeds in the autumn, ſoon after they are ripe. When they come up, they will require no trouble, except thinning them where they are too cloſe, and keeping them clean from weeds; and after they have once flowered, and ſcattered the ſeeds, plants enough for a ſucceſſion will ſpontaneouſly ariſe.

Titles.

Annuum.

1. The firſt ſpecies is titled, *Seſeli petiolis rameis membranaceis ventricoſis emarginatis.* Vaillant calls it, *Fœniculum ſylveſtre annuum, tragoſelini odore, umbellâ albâ*; and Caſpar Bauhine, *Libanotis tenuifolia Germanica.* It grows naturally in Germany, France, and Italy.

Ammoides.

2. The ſecond ſpecies is, *Seſeli petiolis membranâ deſtitutis.* Tournefort calls it, *Fœniculum Luſitanicum minimum acre*; Moriſon, *Saxifraga annua acris, millefolii terreſtris folio tenuiſſimo*; and Caſpar Bauhine, *Ammoides.* It grows naturally in Italy and Portugal.

CHAP.

C H A P. CCCIII.

SESUVIUM.

The plant deſcribed. THERE is only one ſpecies of this genus, which is an Annual, and was uſed formerly to be arranged with the Purſlanes; but its ſtructure is now found to be altogether different from thoſe flowers.

The ſtalk is weak, and, unleſs ſupported, lies on the ground. The leaves are ſpear-ſhaped, long, moderately broad, convex, and of a lucid-green colour. The flowers grow ſingly on footſtalks from the upper parts of the plants, and are of a red or purple colour, as it ſhall happen from the ſeeds; they will flower ſooner or later, according as they have been brought forward in the ſpring.

Culture. It is eaſily propagated by ſowing the ſeeds in a border of freſh, light earth. When they come up, the plants muſt be thinned where they appear too cloſe; and this, except keeping them clean from weeds, and watering them in very dry weather, is all the trouble they will require.

Titles. Portula-castrum. There being no other ſpecies of this genus, it ſtands ſimply with the name, *Seſuvium.* In the former edition of the *Species Plantarum* it is termed, *Portulaca foliis lanceolatis convexis, pedunculis unifloris.* Plukenet calls it, *Portulaca Curaſſavica, anguſto longo lucidoque folio, procumbens, floribus rubris*; Plumier, *Portulaca marina latifolia, flore ſuave-rubente*; Sloane, *Portulaca aizoides maritima procumbens, flore purpureo*; and Rumphius, *Halimus Indicus.* It grows naturally on the coaſt of India.

Claſs and order in the Linnæan Syſtem. The characters. *Seſuvium* is of the claſs and order *Icoſandria Trigynia*; and the characters are,

1. CALYX is a campanulated, monophyllous perianthium, divided into five oval, acute ſegments, that are withering and coloured on their inner ſide.
2. COROLLA. There is none.
3. STAMINA are many awl-ſhaped filaments, ſhorter than the calyx, having roundiſh antheræ.
4. PISTILLUM conſiſts of an oblong germen, and of (for the moſt part) three capillary, erect ſtyles, the length of the ſtamina, with ſimple ſtigmas.
5. PERICARPIUM is an oval, trilocular capſule.
6. SEMINA. The ſeeds are roundiſh, a little flat, and have a longiſh edge.

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C H A P. CCCIV.

SHERARDIA.

OF this genus there are two Annuals, entitled,

Species.
1. Little Field Madder.
2. Leaſt Wall Woodroof.

Little Field Madder deſcribed. 1. Little Field-Madder. The ſtalks are jointed, trailing, and eight or ten inches long. The leaves are ſhort, hairy, acute, and grow in whorls round the ſtalks. The flowers are produced from the tops of the ſtalks in ſmall bunches, under which are ſituated ſeveral ſmall leaves diſpoſed in a radiated manner: The flowers are of a blue colour, appear in June and July, and the ſeeds ripen in the autumn.

Leaſt Wall Woodroof deſcribed. 2. Leaſt Wall Woodroof. The ſtalks are trailing, and five or ſix inches long. The leaves are oval, and ſpear-ſhaped; the lower ones are produced in whorls, and the upper ones grow oppoſite to each other. The flowers are produced by pairs on footſtalks ariſing from the wings of the leaves; they are of a pale-yellow colour, appear in June and July, and the ſeeds ripen in Auguſt.

Culture. Theſe ſpecies are propagated by ſowing the ſeeds in the autumn ſoon after they are ripe, or the ſpring following; and after they come up, they will require no trouble, except thinning them where they are too cloſe, and keeping them clean from weeds. They are ſeldom admitted into gardens, unleſs where a general collection of plants is to be found; and after they have flowered, and the ſeeds are ſcattered, they will become as weeds all over the garden.

Titles. Arvensis. 1. Little Field Madder is titled, *Sherardia foliis omnibus verticillatis, floribus terminalibus.* Dillenius calls it, ſimply, *Sherardia*; Caſpar Bauhine, *Rubeola arvenſis repens cærulea*; John Bauhine, *Rubia parva, flore cæruleo ſe ſpargens*; and Parkinſon, *Rubeola minor pratenſis cærulea.* It grows naturally among the corn in England and moſt parts of Germany.

Muralis. 2. Leaſt Wall Woodroof is, *Sherardia foliis floralibus binis oppoſitis binis floribus.* Caſpar Bauhine calls it, *Aſperula verticillata luteola*; Columna, *Aſperula verticillata muralis minima*; and Buxbaum, *Gallicum minimum, ſeminibus oblongis.* It grows naturally on old walls in Italy and at Conſtantinople.

Claſs and order in the Linnæan Syſtem. The characters. *Sherardia* is of the claſs and order *Tetrandria Monogynia*; and the characters are,

1. CALYX is a ſmall, permanent perianthium,

placed above the germen, and indented in four points at the top.

2. Corolla is one funnel-ſhaped petal. The tube is cylindrical and long. The limb is plane, and divided into four acute parts.

3. Stamina are four filaments placed at the top of the tube, having ſimple antheræ.

4. Pistillum conſiſts of an oblong, didymous germen ſituated below the calyx, and a filiforme, bifid ſtyle, with capitated ſtigmas.

5. Pericarpium. There is none. The fruit is oblong, coronated, and divided longitudinally into two parts.

6. Semina. The ſeeds are two, oblong, three-pointed at the top, convex on one ſide, and plane on the other.

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CHAP. CCCV.

SICYOS, SINGLE-SEEDED CUCUMBER.

Species.

OF this genus are,

1. Angular-leaved Single-ſeeded Cucumber.

2. Jagged-leaved Single-ſeeded Cucumber.

The common Yellow

1. Angular-leaved Single-ſeeded Cucumber. The ſtalk is trailing, and divides into many branches, which are poſſeſſed of tendrils that lay hold on every thing that is near them, and which, if ſupported, will grow to fifteen or ſixteen feet high. The leaves are large and angular, of a deep-green colour, and grow on moderately-long footſtalks. The flowers come out in cluſters from the ſides of the branches, which are elevated on longiſh footſtalks; they are ſmall, of a pale-ſulphur colour, appear in July and Auguſt, and the ſeeds ripen in the autumn.

and Indian Yellow Mallow deſcribed.

2. Jagged-leaved Single-ſeeded Cucumber. The ſtalks are trailing, branching, and poſſeſſed of tendrils. The leaves are large, and finely jagged or deeply cut into many ſegments. The flowers come out in cluſters from the ſides of the branches, are of a pale-yellow colour, appear in July and Auguſt, and the ſeeds ripen in the autumn.

Culture.

The firſt ſpecies is a hardy Annual, and is propagated by ſowing the ſeeds in the autumn, ſoon after they are ripe, or the ſpring following, in the places where they are deſigned to remain. When the plants come up, they muſt be kept clean from weeds; which is all the trouble they will require.

The ſecond ſpecies is more tender, and is raiſed by ſowing the ſeeds on a hot-bed in the ſpring. When the plants are fit to remove, they ſhould be tranſplanted to a ſecond hot-bed, where they muſt be watered and ſhaded at firſt, but afterwards ſhould have more air. In hot weather the glaſſes may be finally taken off, and watering them in ſuch ſeaſons muſt not be neglected; but if much rain ſhould happen, they muſt be covered with glaſſes as before, which will cauſe a better certainty of obtaining good ſeeds for a ſucceſſion.

Titles.

1. The firſt ſpecies is titled, *Sicyos foliis angulatis.* Dillenius calls it, *Bryonioides flore & fructu minore*; Plukenet, *Cucumis bryonioides Biſnagarica, fructu parvo*; and Herman, *Cucumis Canadenſis monoſpermos, fructu echinato.* It grows naturally in Canada and Mexico.

Angulata.

2. The ſecond ſpecies is, *Sicyos foliis laciniatis*: Plumier calls it, *Sicioides fructu echinato, foliis laciniatis.* It is a native of the warmer parts of America.

Laciniata.

Claſs and order in the Linnæan Syſtem. The characters.

Sicyos is of the claſs and order *Monoecia Syngeneſia*; and the characters are,

I. Male Flowers.

1. Calyx is a monophyllous, bell-ſhaped perianthium, indented in five awl-ſhaped points at the top.

2. Corolla is one bell-ſhaped petal growing to the calyx, and divided into five oval ſegments.

3. Stamina are five united filaments, with the like number of antheræ.

II. Female Flowers.

1. Calyx is a perianthium like that of the male, but deciduous, and ſits upon the germen.

2. Corolla. The ſame as the Male.

3. Pistillum conſiſts of an oval germen ſituated below the calyx, a cylindrical ſtyle, and a thickiſh, trifid ſtigma.

4. Pericarpium is an oval, prickly berry, containing one cell.

5. Semen. The ſeed is ſingle, and nearly oval.

CHAP. CCCVI.

SIDA, INDIAN MALLOW.

THIS genus comprehends the *Malvinda* and the *Abutilon* of Authors. Moſt of the ſpecies are Annuals or Biennials, or ſuch other plants as, although they are Perennials in their own hot country, become Annuals with us. The beſt of them are,

Species.

1. The *Abutilon*, or Common Yellow Mallow.
2. Indian *Abutilon*, or Yellow Mallow.
3. Small-flowering Yellow Mallow.
4. Pendulous-fruited *Abutilon*.
5. Creſted *Abutilon*.
6. Starry-fruited *Abutilon*.
7. Jamaica *Abutilon*.
8. Large-leaved American *Abutilon*.
9. Yellow Indian *Sida*.
10. Starry Alder-leaved Indian Mallow.
11. Bicorned Indian Mallow.
12. Betony-leaved Indian Mallow.
13. Capitated Indian Mallow.

Common

1. The *Abutilon*, or Common Yellow Mallow, will grow to the height of about four or five feet. The ſtalk is thick and robuſt, woolly, and branching near the top. The leaves are ſoft and woolly, of a roundiſh, heart-ſhaped figure, but pointed; are large, ſoft to the touch, of a whitiſh colour, and have their edges lightly indented. The flowers appear in Auguſt, are of a yellow colour, are produced from the wings of the leaves on long footſtalks, and will be ſucceeded by ripe ſeeds in October.

and Indian Yellow Abutilon deſcribed.

2. Indian *Abutilon*, or Yellow Mallow. The ſtalk is more tender than that of the former ſpecies, and hairy. The leaves are large, whitiſh, of a cordated figure, and are ſo divided as nearly to form a lobed leaf. The flowers are yellow, and, by the aſſiſtance of a good hot-bed in the ſpring, may be made to blow in Auguſt, and ripen their ſeeds in October.

Deſcription of Small-flowering,

3. Small-flowering Yellow Mallow. This has much the reſemblance of the preceding ſpecies. The leaves are cordated, but undivided, are whitiſh, ſoft to the touch, and full of veins. The flowers are ſmaller, and ſtand upon longer footſtalks. This plant muſt have the care of a good hot-bed in the ſpring, to cauſe it to blow in Auguſt.

Pendulous-fruited,

4. Pendulous-fruited *Abutilon*. This ſpecies hath ſoft, downy, cordated leaves, which are divided ſo as to be nearly lobated, and their edges are indented. The flowers are ſmall, and of little beauty; and to cauſe it to perfect its ſeeds in the autumn, it muſt be forwarded by a good hot-bed in the ſpring.

Creſted-fruited,

5. Creſted-fruited *Abutilon*. The leaves are of different figures, though all of them are more or leſs angular. The lower leaves are chiefly cordated, but thoſe above are haſtated, and many of them are ſhaped a little like a violin. The flower is beautiful, ſomewhat reſembles that of the *Lavatera*, and is ſucceeded by a creſted fruit.

Starry-fruited,

6. Starry-fruited *Abutilon* ariſes with an erect, ſmooth ſtalk to the height of about five or ſix feet. The leaves are large, of an oval, ſpear-ſhaped figure, of a light-green colour on their upper ſurface, but downy underneath, have their edges entire, and, on the whole, a little reſemble thoſe of the *Periploca*. The flowers are white, are produced in panicles, have long and ſlender footſtalks, and are ſucceeded by a ſtarry fruit.

Jamaica,

7. Jamaica *Abutilon* has a ſtrong, robuſt, woolly ſtalk, ornamented by very large, oblong, cordated leaves, which are downy, undivided, ſerrated on their edges, and placed on very long footſtalks on the branches. The flowers are large, of a beautiful-yellow colour, and require the ſtricteſt care of the hot-bed to bring them into full blow before the winter comes on.

and Large-leaved American Abutilon.

8. Large-leaved American *Abutilon* ariſes with a robuſt, rough, woolly ſtalk. The leaves are very large, and roundiſh, though they are inclined to a cordated figure; they are pointed, have their edges entire, and on the whole make a noble appearance.

Cultivation of this laſt ſpecies.

This ſpecies is a Biennial, and the beſt way to raiſe it is to ſow the ſeeds in pots, or boxes, in May, and, at the approach of winter, move the plants (for they will readily come up) into the green-houſe, or under an hot-bed frame. Let them have as much free air as poſſible all winter, and in April plant them out where they are deſigned to blow. This will be about July, and they will ripen their ſeeds in the autumn, at which time the ſtalks decay.

Yellow Indian Sida deſcribed.

9. Yellow Indian *Sida* ariſes with a robuſt, branching ſtalk to the height of about three feet. The leaves are long, pointed, and their figure is nearly oval, but indented at the bottom in an heart-like manner; they are downy, ſoft to the touch, and have their edges elegantly ſerrated. The flowers are produced from the boſoms of the leaves, and the extremities of the branches, on ſimple footſtalks; they are of a pale but delicate yellow colour, and the time of flowering will be in September, if the care of a good hot-bed has forwarded the plants in the ſpring; and provided that, at the approach of cold, they are removed into the green-houſe or ſtove, they will continue flowering the greateſt part of the winter.

Deſcription of Starry Alder-leaved

10. Starry Alder-leaved Indian Mallow ariſes with a ſmall, ſlender ſtalk to the height of about two feet. The leaves are roundiſh, plaited, and their edges are beautifully ſerrated; they ſtand on long footſtalks, are of a light colour, and their under-ſide is a little hairy. The flowers are produced from the footſtalks of the leaves on ſlender footſtalks; ſometimes they are produced ſingly, or at moſt three or four will be found growing together. They will be in blow in Auguſt, are of a pale-yellow colour, and will continue in ſucceſſion until the early froſts advance; and if, a little before that time, they are removed into the green-houſe or ſtove, they will continue flowering the greateſt part of the winter, and produce good ſeeds in plenty.

and Bicorned Indian Mallow.

11. Bicorned Indian Mallow riſes with an erect, branching ſtalk to about a yard in height. The leaves are cordated, nearly angular, of a

light-green colour, downy, of a velvety touch, have their edges ſerrated, and are placed on long footſtalks on the branches. The flowers are ſmall, of a pale-yellow colour, and are produced from the wings of the ſtalks on long footſtalks. If managed like the preceding ſpecies, it will flower at the ſame time, and produce good ſeeds.

Deſcription of Betony-leaved 12. Betony-leaved Indian Mallow. This is a low trailing plant, and the branches are numerous, ſlender, and of a light-brown colour. The leaves are of an oblong, oval figure; they are ſmall, have their edges ſerrated, are hairy on their under-ſide, and are placed on ſhort footſtalks. The flowers are of a bright-ſcarlet colour, are ſmall, and are produced from the ends of the branches in cluſters; they will be in blow in Auguſt, and will be ſucceeded by rough, briſtly ſeeds.

and Capitated Indian Mallow. 13. Capitated Indian Mallow riſes with a rough, prickly, branching ſtalk to the height of about four feet. The leaves are of different figures, ſome of them being nearly cordated, others angular, and a third ſort divided into three or five obtuſe lobes; they have their edges indented, and are of a pale-green colour; all of them are rough and hairy, and placed on long fooſtalks on the branches. The flowers are produced from the wings of the ſtalks in round heads; they are ſmall, of a pale-yellow colour, will be in blow in Auguſt, and are ſucceeded by prickly ſeeds.

Culture. All theſe ſpecies are eaſily raiſed by ſeeds. The firſt-mentioned is the Common *Abutilon*, or Yellow Mallow; a well-known plant. Sow the ſeeds in almoſt any place, ſituation, or ſoil, and they will come up; and afterwards the plants will flower, and ſhed their ſeeds, and produce a ſucceſſion without further trouble.

The other ſpecies ſhould be ſown early in March in a good hotbed; and when the plants are about three inches high, they ſhould be pricked out into another hotbed. They muſt be uſed to the air, and hardened by degrees; and afterwards, on a moiſt day, they ſhould be planted out with a ball of earth at each root, in the places where they are deſigned to remain: Tho' it may not be improper to ſet ſome plants of the Yellow Indian *Sida*, and the Shrubby ſorts, in pots, to continue their flowers in beauty, if a perſon is fond of theſe kind of plants; and by this management ſome of them may be continued three or four years.

Titles. Abutilon. 1. The *Abutilon*, or Common Yellow Mallow, is termed, *Sida foliis ſubrotundo-cordatis indiviſis, pedunculis folio brevioribus, capſulis multilocularibus, corniculis bifidis.* This is the *Althæa* of Theophraſtus. Cammerarius calls it, *Althæa altera, ſive abutilon.* It grows common in moſt parts of America.

Indica. 2. Indian *Abutilon*, or Yellow Mallow, is, *Sida foliis cordatis ſublobatis, ſtipulis reflexis, pedunculis longioribus, capſulis multilocularibus ſcabris calyce longioribus.* This is the *Abutilon Indicum* of Moriſon, John Bauhine, and others. It grows naturally in India.

Asiatica. 3. Small-flowering Yellow Mallow is, *Sida foliis cordatis indiviſis, ſtipulis reflexis, pedunculis longioribus, capſulis multilocularibus hirſutis calyce brevioribus.* In the *Flora Zeylanica* it is termed, *Abutilon Indicum, flore luteo minore.* It grows naturally in India.

Crispa. 4. Pendulous-fruited *Abutilon* is called, *Sida foliis cordatis, ſublobatis crenatis tomentoſis, capſulis cernuis inflatis multilocularibus crenatis repandis.* Dillenius calls it, *Abutilon veſicarium criſpum, floribus melinis parvis.* It grows naturally in many parts of America.

Cristata. 5. Creſted *Abutilon* is, *Sida foliis angulatis, inferioribus cordatis, ſuperioribus panduriformibus, capſulis multilocularibus.* Dillenius calls this, *Abutilon lavateræ flore, fructu criſtato.* It is a native of Mexico.

Periploci-folia. a 6. Starry-fruited *Abutilon* is, *Sida foliis oblongis integerrimis, caule paniculato.* Dillenius calls it, *Abutilon periplocæ acutioris folio, fructu ſtellato.* It is an inhabitant of Jamaica.

Ameri-cana. 7. Jamaica *Abutilon* is, *Sida foliis cordatis oblongis indiviſis, capſulis multilocularibus longitudine calycis, loculis lanceolatis.* This is the *Abutilon veſicarium, flore luteo, majus,* of Plumier. It grows naturally in Jamaica.

Periploci folia B. 8. Large-leaved American *Abutilon* is, *Sida foliis ſubrotundo-cordatis acuminatis integerrimis.* Plumier calls it, *Abutilon ampliſſimo folio, caule villoſo.* It grows in South-America.

Spinosa. 9. Yellow Indian *Sida* is, *Sida foliis cordato-oblongis ſerratis, ſtipulis ſetaceis, axillis ſubſpinoſis.* Commeline and Boccone call it, *Alcea, carpini folio, Americana fruteſcens, floſculis luteis, ſemine duplici roſtro.* It grows naturally in the Eaſt and Weſt Indies.

Alnifolia. 10. Starry Alder-leaved Indian Mallow is, *Sida foliis orbiculatis plicatis ſerratis.* Dillenius terms it, *Malvinda ſtellatâ alnifolia.* It grows common in the Weſt-Indies.

Cordi-folia. 11. Bicorned Indian Mallow is, *Sida foliis cordatis ſubangulis ſerratis villoſis.* Dillenius terms it, *Malva bicornis, ballotes folio molli.* It grows common at the Cape of Good Hope.

Ciliaris. 12. Betony-leaved Indian Mallow is, *Sida foliis ovalibus retuſis ſerratis, ſtipulis linearibus ciliatis, ſeminibus muricatis.* Sloane terms it, *Malva minor ſupina, betonicæ folio, flore coccineo ſeminibus aſperis.* It is a native of Jamaica.

Capitata. 13. Capitated Indian Mallow is, *Sida capitulis pedunculatis triphyllis ſeptemfloris.* Van Royen calls it, *Malva caule erecto hiſpido, foliis erectis crenatis difformibus.* It grows in moiſt places in the Caribbees.

Claſs and order in the Linnæan Syſtem. *Sida* is of the claſs and order *Monadelphia Polyandria*; and the characters are,

The characters.

1. CALYX is a five-pointed, angular, permanent perianthium.
2. COROLLA conſiſts of five emarginated petals, which coaleſce at their baſe.
3. STAMINA are numerous filaments: Theſe are joined together at the bottom in a column; above they ſpread open, and have roundiſh antheræ.
4. PISTILLUM conſiſts of an orbicular germen, and a ſhort, multifid ſtyle, with many ſtigmas.
5. PERICARPIUM is a roundiſh, acuminated capſule of five or more cells.
6. SEMINA. The ſeeds are roundiſh, and acuminated; on one ſide they are convex, on the other angular.

CHAP. CCCVII.

SIDERITIS, IRON-WORT.

Species. OF this genus there are three ſhort-lived ſpecies, called,

1. Mountain Iron-Wort.
2. Roman Iron-Wort.
3. Ægyptian Iron-Wort.

Deſcription of Mountain 1. Mountain Iron-Wort. The ſtalk is herbaceous, branching, and procumbent. The leaves are narrow, ſpear-ſhaped, downy, and ſit cloſe to the ſtalks. The flowers come out from the ends of the ſtalks in whorled ſpikes; they are of a blackiſh-purple or iron colour, having a mixture of yellow in the center; they appear in July and Auguſt, and the ſeeds ripen in the autumn.

Roman, 2. Roman Iron-Wort. The ſtalks are weak, herbaceous, branching, hairy, and lie on the ground. The leaves are ſmall, ſpear-ſhaped, narrow, hairy, and ſit cloſe to the ſtalks. The flowers come out from the ends of the branches in whorled ſpikes, are of a yellow colour, appear in July and Auguſt, and the ſeeds ripen in the autumn.

and Ægyptian Iron-Wort. 3. Ægyptian Iron-Wort. The ſtalk is upright, ſimple, very woolly, and about ſix or eight inches high. The leaves are heart-ſhaped, obtuſe, ſlightly ſerrated on their edges, hairy, woolly, and grow on ſhort footſtalks. The flowers come out from the tops of the ſtalks in long ſpikes, are of a dark violet-colour, appear in July and Auguſt, and the ſeeds ripen in the autumn.

Culture. Theſe ſpecies are propagated by ſowing the ſeeds in the autumn ſoon after they are ripe, or the ſpring following. If they are ſown in the autumn, the ſoil ſhould be naturally dry, light, and the place well defended; for they frequently come up before winter, and without theſe precautions are liable to be deſtroyed. In the ſpring they muſt be thinned where they are too cloſe, and be conſtantly kept clean from weeds; and this is all the trouble they will require.

Titles. Montana, 1. Mountain Iron-Wort is titled, *Sideritis herbacea decumbens ebracteata, calycibus corollâ majoribus ſpinoſis, labio ſuperiore trifido.* In the *Hortus Cliffort.* it is termed, *Cunila calycum labio ſpinoſo, ſuperiore trifido, inferiore bipartito.* Caſpar Bauhine calls it, *Sideritis montana, parvo varioque flore*; and Columna, *Sideritis montana, parvo flore nigro purpurea, capite medio croceo.* It grows naturally in Italy.

Romana, 2. Roman Iron-wort is, *Sideritis herbacea ebracteata, calycibus ſpinoſis, laciniâ ſuperiore majore ovatâ.* In the *Hortus Cliffort.* it is termed, *Cunila calycum laciniâ ſuperiore latiori ovato trinervi.* John Bauhine calls it, *Sideritis genus verticillis ſpinoſis*; and Moriſon, *Sideritis, verticillis ſpinoſis, minor. procumbens.* It grows naturally in moſt of the ſouthern countries of Europe.

Lanata. 3. Ægyptian Iron-wort is, *Sideritis foliis cordatis obtuſis villoſis, calycibus muticis lanatis, ſpicâ longâ, caule erecto.* It grows naturally in Ægypt and Paleſtine.

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CHAP. CCCVIII.

SILENE, CATCH-FLY, or CAMPION.

Species. THE Annuals of this genus are,

1. Small Corn Catch-Fly, or Engliſh Campion.
2. Portugal Catch-Fly.
3. Hairy Variegated-flowered Campion, or Dwarf *Lychnis.*
4. Hairy Viſcous Nocturnal Campion.
5. Gallican Campion.
6. *Ceraſtoide* Campion.
7. Mutable Campion.
8. Great Corn Catch-Fly, or Campion.
9. Conical Campion.
10. Behen Campion.
11. Spaniſh Campion.
12. Sicilian Campion.
13. Night-flowering Catch-Fly.
14. Antirrhine Catch-Fly.
15. Small Red-flowered Catch-Fly.
16. Smooth *Viſcago.*
17. Port Campion.
18. Cretan *Lychnis*, or Catch-Fly.
19. Broad-leaved Campion, or Lobel's Catch-Fly.
20. Quadrifid Catch-Fly.
21. Narbonne Catch-Fly.
22. Rock Catch-Fly.
23. Green-flowered Catch Fly.

Deſcription of Small Corn 1. Small Corn Catch-Fly, or Campion. This is a ſmall Annual that comes up among the corn in ſome parts of England. The leaves are oval, ſpear-ſhaped, and hairy. The flowers are white, grow erect, have undivided petals, come out by different ſowings moſt part of the ſummer, and the ſeeds ripen in their regular ſucceſſion.

and Portugal Catch-Fly. 1. Portugal Catch-Fly. The ſtalk is viſcous, ſlender, branching, and about a foot and a half high. The leaves are oval, ſpear-ſhaped, and hairy. The flowers are of a reddiſh colour, grow alternately, having indented petals, and from different ſowings come out moſt part of the ſummer, and the ſeeds ripen accordingly.

Deſcription of the Hairy Variegated-flowered,

3. Hairy Variegated-flowered Campion, or Dwarf *Lychnis.* The ſtalks are channelled, hairy, and divide into many branches. The leaves are oval, ſpear-ſhaped, hairy, and grow oppoſite to each other, ſitting cloſe, without any footſtalks. The flowers come out in ſhort ſpikes from the ends of the branches, and grow alternately; their colour is a bright-purple, having a white edging; they come out by different ſowings of the ſeeds from May until the end of autumn, and ripen their ſeeds accordingly.

and Hairy Viſcous Campion.

4. Hairy Viſcous Nocturnal Campion. The ſtalk is hairy, branching, and about a foot high. The leaves are narrow, ſpear-ſhaped, concave, rigid, hairy, and grow oppoſite by pairs. The flowers are produced in ſpikes from the ends of the branches; they are turned one way, and ſit cloſe, without any pedicles; they are of a dark-purple colour, and their petals are bifid; they are cloſed in the day-time, but open in evenings, and continue open all night; they ſhew themſelves by different ſowings from May until the end of ſummer, and produce plenty of good ſeeds for a ſucceſſion.

There are ſeveral varieties of this ſpecies; ſuch as,

Varieties.

The White-flowered,
The Pale-purple,
The Smooth-leaved,
The Taller, &c.

Gallic,

5. Gallic Campion. This is a low, hairy plant, dividing into a few branches. The leaves are oblong, wedge-ſhaped, obtuſe, and ſit cloſe, having no footſtalks. The flowers are produced in ſhort ſpikes, and all of them turn one way; their petals are undivided, and their calyces ſtriated; they are ſmall, of a fleſh-colour, and may be brought to flower from May to the end of ſummer.

Ceraſtoide,

6. Ceraſtoide Campion. The ſtalks are hairy, rigid, and branching. The leaves are oblong, ſpear-ſhaped, hoary, and reſemble thoſe of Mouſe-ear Chickweed. The flowers come out alternately on very ſhort footſtalks; their petals are divided into two parts, their cups are hairy, and they appear great part of the ſummer.

and Mutable Campion deſcribed.

7. Mutable Campion. This is a low Annual, which comes up among the corn in ſome parts of England. The leaves are narrow, and ſpear-ſhaped. The flowers are very ſmall, and of a white colour; their petals are bifid, their cups angular, and the plant may be made to flower at any time of the ſummer.

Gre Corn Catch-fly deſcribed.

8. Great Corn Catch-fly, or Campion. The ſtalks are branching, thick, viſcous at the joints, and grow to near two feet high. The leaves are narrow, acute, and ſit cloſe to the ſtalks. The flowers are ſmall, and of a red colour; their petals are undivided, and their cups ſtriped; they come out from the ends of the branches among our corn in June, and the ſeeds ripen in Auguſt; but by ſowing the ſeeds late in the ſpring, it may be made to flower in the end of autumn.

Conic,

9. Conic Campion. The ſtalks are ſmooth, thick at the joints, and divide into a few branches. The leaves are oblong, ſharp-pointed, ſmooth, and ſoft to the touch. The flowers are moderately large, and of a full-red colour; their petals are bifid, and their cups turgid and ſtriated; they come out great part of the ſummer, and are ſucceeded by conical capſules, containing the feeds.

Behen,

10. Behen Campion. The root is tough. The ſtalks are about a foot and a half high, and divide into many branches. The leaves are narrow, oblong, ſpear-ſhaped, pointed, and grow oppoſite to each other at the joints. The flowers are very ſmall, and hang drooping; their colour is inclining to a purple, having white antheræ; they come out in May, and continue in ſucceſſion to the end of autumn.

Spaniſh,

11. Spaniſh Campion. This hath a forked ſtalk, with ſwelling, viſcous joints. The leaves are ſpear-ſhaped, viſcid, and hairy. The flowers come out from the ends of the branches on very ſhort footſtalks; they grow erect in ſmooth, netted cups, their petals are indented, and they make their appearance the greateſt part of the ſummer.

and Sicilian, Campion deſcribed.

12. Sicilian Campion. The ſtalks are many, branching, trailing, unleſs ſupported, and about a foot and a half long. The leaves are oval, acute-pointed, and grow oppoſite to each other. The flowers are large, and of a bright-red colour; they come out ſingly from the wings of the ſtalks in May and June, having large, inflated cups, and are ſucceeded by large, pendulent capſules, containing the ſeeds.

Night-flowering,

13. Night-flowering Catch-fly. The ſtalk is thick, forked, glutinous, and eight or nine inches high. The leaves are oblong, grow by pairs, and embrace the ſtalk with their baſe. The flowers come out from the ends of the branches; they are of a red colour, ſmall, and two or three only grow together; they appear in June among our corn, and the ſeeds ripen in the autumn.

The flowers of this ſpecies are open only in nights.

Antirrhine,

14. Antirrhine Catch-fly. The ſtalk is thick, divides by pairs, and is about a foot and a half high. The leaves are ſpear-ſhaped, undivided, ciliated, grow by pairs, and much reſemble thoſe of Snap-Dragon. The flowers come out from the ends of the branches, growing erect, in oval cups; their petals are indented, and they open in evenings, like the former.

and Small Red-flowering Catch-fly deſcribed.

15. Small Red-flowering Catch-fly. The ſtalk is ſmooth, erect, glutinous, and about nine inches high. The leaves are ſmooth, ſpear-ſhaped, and grow oppoſite to each other at the joints. The flowers are red, but they are ſo ſmall as hardly to be diſtinguiſhed.

Smooth Viſcago,

16. Smooth *Viſcago.* This hath a ſmooth, viſcous, thickiſh, forked ſtalk, about a foot high. The leaves are ſpear-ſhaped, and ſmooth. The flowers are produced in panicles from the ends of the branches, but they are ſmaller than the former; their petals at beſt are exceeding ſhort, but their edges are indented, and ſometimes the limb is wanting; ſo that when the flower is in its higheſt perfection, no appearance of one is to be ſeen.

Theſe two ſorts are only for curioſity and obſervation, not for beauty, as their flowers, when in extreme perfection, are hardly diſcernible.

Port Campion,

17. Port Campion. The ſtalks are forked, ſmooth, and about ſeven or eight inches high. The leaves are very narrow, ſmooth, and acute. The flowers grow ſingly from the diviſions of the branches on long, ſlender footſtalks, having ſtriped cups; their petals are bifid, but they are ſmall, and almoſt of as inconſiderable ſhow as the two preceding.

and Cretan Catch-fly deſcribed.

18. Cretan Catch-fly. The ſtalk is ſlender, erect, forked, ſmooth, ſwelling, and viſcous at the joints. The leaves are oblong, oval, and much reſemble thoſe of the Daiſy. The flowers are of a delightful purple colour; their petals are

bifid, and, being moderately large, look very beautiful.

Variety. There is a variety of this ſpecies with red flowers.

Broad-leaved Campion deſcribed. 19. Broad-leaved Campion, or Lobel's Catch-fly. This plant is ſo common as to be known by almoſt every body. The ſtalks are ſmooth, viſcous a little below the joints, branching, and about a foot and a half high. The lower leaves are broad, ſpear-ſhaped, oval, and ſmooth; the upper ones are heart-ſhaped, ſmooth, grow oppoſite to each other, and ſit cloſe, having no foot-ſtalks. The flowers come out in bunches from the ends of the branches, and by different ſowings may be made to ſhew themſelves all the ſummer.

The varieties of this ſpecies are,

Varieties of it.
The Red, which is the moſt common,
The White,
The Purple.

Quadrifid 20. Quadrifid Catch-fly. The ſtalks are upright, glutinous, and divide by pairs. The leaves are narrow, ſmooth, and recurved. The flowers are moderately large, grow on footſtalks, are of a pure-white colour, and each petal is quadrifid, or cut in ſuch a manner as to appear as if compoſed of four lobes; they come out in June and July, and the ſeeds ripen in September.

and Narbonne Catch-fly, 21. Narbonne Catch-fly. This plant is a Biennial. The ſtalk is round, ſwelling at the joints, clammy, divides by pairs, and is about a foot and a half high. The leaves are ſpear-ſhaped, narrow, ſmooth, and grow round the ſtalks in cluſters. The flowers come out ſingly from the wings of the leaves, without any footſtalks; their colour is red, and their petals are cut into two parts; they appear in May, and are ſucceeded by oblong, viſcous capſules, containing ripe ſeeds in July.

Rock, Campion, 22. Rock Campion is a Biennial. The ſtalks are upright, ſmooth, thick at the joints, and divide by pairs. The leaves are ſpear-ſhaped, narrow, ſmooth, and come out from the joints, without any footſtalks. The flowers grow erect on ſhort footſtalks, and their petals are indented; they come out in May, and are ſucceeded by taper pods, containing ripe ſeeds in July.

and Green-flowered, Catch-fly deſcribed. 23. Green-flowered Catch-fly. This plant is a Biennial. The ſtalks are upright, taper, downy, thick at the joints, ſend forth branches alternately, and are about twelve or fourteen inches high. The leaves are oval, ſpear-ſhaped, acute, a little downy, and of a light-green colour. The flowers are produced in panicles from the ends of the branches, having forked footſtalks; they are of a whitiſh-green colour, and their petals are ſemi-bifid; they come out in May, and the ſeeds ripen in July.

Method of propagation. The firſt twenty ſorts being Annuals, the ſeeds ſhould be ſown in the ſpring, in the places where they are to remain. After the plants come up, the weakeſt muſt be drawn out, leaving the others at proper diſtances; and this, except keeping them clean from weeds, and watering them in dry weather, is all the trouble they will require. Theſe plants will flower in June, and the ſeeds ripen by September.

In order to have them early, the ſeeds ſhould be ſown in the autumn; they will readily come up, and ſtand the winter. Plants raiſed at this ſeaſon will flower by the end of May following.

In order to have the plants flower in the autumn, a ſowing or two ſhould be made late in the ſpring, at an interval of three weeks; and plants raiſed by late ſowings may be made to ſhew their flowers at the approach of winter, but ſeeds muſt never be expected from them.

The laſt three ſorts being Biennials, the ſeeds ſhould be ſown in the ſpring, in the places where they are deſigned to remain; for they thrive much better when unmoleſted, than if they had been tranſplanted. When they come up, nothing more is to be done than to thin them to proper diſtances, keeping them clean from weeds, watering them in dry weather, and early the ſummer following they will flower and perfect their ſeeds.

The ſeeds of all the ſorts, if permitted to ſcatter, will grow and produce plants enough for a ſucceſſion without any trouble; but as they often come up in improper places, the beſt way will be to gather the ſeeds regularly, and obſerve the due times of ſowing them.

Titles. 1. Small Corn Catch-fly, or Engliſh Campion, is titled, *Silene hirſuta, petalis integerrimis, floribus erectis, fructibus reflexis pedunculatis alternis.* Dillenius calls it, *Viſcago ceraſtii foliis, vaſculis pendulis Anglica*; Vaillant, *Lychnis ſylveſtris hirſuta annua, flore minore albo*; and Ray, *Lychnis ſylveſtris flore albo minimo.* It grows naturally in the corn-fields near Colcheſter, and other parts of England. Anglica.

2. Portugal Catch-fly is, *Silene hirſuta, petalis dentatis, floribus erectis, fructibus divaricato-reflexis alternis.* In the *Hortus Cliffort.* it is termed, *Silene floribus alternis, petalorum limbis integris crenatis.* Dillenius calls it, *Viſcago hirſuta Luſitanica, ſtellato flore.* It grows common in Luſitania. Luſita=nica.

3. Hairy Variegated-flowered Campion, or Dwarf *Lychnis*, is, *Silene petalis integerrimis ſubrotundis, fructibus erectis alternis.* Sauvages calls it, *Silene ſpicâ incurvâ uno verſu florida, foliis imis ſpathulatis*; Caſpar Bauhine, *Lychnis ſylveſtris lanuginoſa minor*; Ray, *Lychnis hirſuta, flore eleganter variegato*; and Dodart, *Lychnis hirſuta minor, flore variegato.* It grows naturally in Spain, Luſatia, Italy, and Gaul. Quinque=vulnera,

4. Hairy Viſcous Nocturnal Campion is, *Silene floribus ſpicatis alternis ſecundis ſeſſilibus, petalis bifidis.* Van Royen calls it, *Silene foliis lanceolatis, caule ramoſo & floribus ſecundis erectis, calycibus hirſutis*; Dillenius, *Viſcago hirta noctiflora, floribus obſoletis ſpicatis*; Barrelier, *Lychnis ſylveſtris hirſuta elatior ſpicata, lini colore*; Ray, *Lychnis ſylveſtris nocturna piloſa, floribus unius ordinis dilutè purpureis*; and Moriſon, *Lychnis ſegetum meridionalium annua hirta, floribus albis uno verſu diſpoſitis.* It grows naturally in Penſylvania, Spain, and the South of France. Noctur=na.

5. Gallic Campion is, *Silene floribus ſubſpicatis alternis ſecundis, petalis indiviſis, fructibus erectis.* Vaillant calls it, *Lychnis ſylveſtris hirſuta annua, flore minore carneo*; and Dillenius, *Viſcago hirta Gallica, flore parvo carneo, petalis integris.* It is a native of Gaul. Gallica,

6. Ceraſtoide Campion is, *Silene petalis bipartitis, fructificationibus erectis ſubſeſſilibus, calycibus ſubpiloſis ſubſeſſilibus.* In the former edition of the *Species Plantarum* it is termed, *Silene hirſuta petalis emarginatis, fructibus erectis alternis hirſutis ſeſſilibus*; in the *Amœn. Acad. Silene rigidula*; and in the *Hortus Elth. Viſcago ceraſtii foliis, vaſculis erectis ſeſſilibus.* It grows common in the ſouthern countries of Europe. Ceraſto=ides.

7. Mutable Campion is, *Silene petalis bifidis, calycibus angulatis pedunculatis, foliis lanceolato-linearibus.* Ray calls it, *Lychnis flore albo minimo*; alſo, *Lychnis arvenſis minor Anglica.* It grows naturally in the ſouth of Europe. Mutabi=lis.

8. Great Corn Catch-fly, or Campion, is, *Silene calycibus fructûs globoſis acuminatis ſtriis triginta, foliis glabris, petalis integris.* In the *Hortus Cliffort.* it is termed, *Cucubalus calycibus conicis ſtriatis.* Cono=idea.

ſtriatis. Caſpar Bauhine calls it, *Lychnis ſylveſtris latifolia, calycibus turgidis ſtriatis*; and Cluſius, *Lychnis ſylveſtris* 2. It grows among the corn, and in dry, ſandy, gravelly places in England and Spain.

Conica. 9. Conic Campion is, *Silene calycibus fructûs conicis ſtriis triginta, foliis mollibus, petalis bifidis.* Caſpar Bauhine calls it, *Lychnis ſylveſtris anguſtifolia, calycibus turgidis ſtriatis*; and Moriſon, *Lychnis glabra annua, foliis oblongis mucronatis, flore amplo rubello, capſulâ oblongâ pyramidali.* It grows naturally in France, Spain, and the Eaſt.

Behen. 10. Behen Campion is, *Silene calycibus glabris ovatis venoſo-reticulatis, capſulis trilocularibus.* Dillenius calls it, *Lychnis veſicaria Cretica, parvo flore purpuraſcente*; and Tournefort, *Lychnis Cretica, parvo flore, calyce ſtriato purpuraſcente.* It grows common in Crete.

Stricta. 11. Spaniſh Campion is, *Silene petalis emarginatis, calycibus glabris reticulato-venoſis acuminatis pedunculo longioribus, caule dichotomo ſtricto.* In the *Amœn. Acad.* it is termed, *Silene caule ſubdichotomo, floribus erectis ſubſeſſilibus, foliis lanceolatis piloſo-viſcidis.* It is a native of Spain.

Pendula. 12. Sicilian Campion is, *Silene calycibus fructiferis pendulis inflatis: angulis decem ſcabris.* In the *Hortus Cliffort.* it is termed, *Cucubalus floribus trigynis erectis, fructibus pendulis, calycibus ſtriis decem criſpis*; alſo, *Cucubalus floribus trigynis erectis, calycibus fructûs pendulis anguloſis*; in the *Hortus Elth. Viſcago hirſuta Sicula, lychnidis aquaticæ facie ſupinâ.* It grows naturally in Crete and Sicily.

Noctiflora. 13. Night-flowering Catch-fly is, *Silene calycibus decemangularibus: dentibus tubum æquantibus, caule dichotomo.* In the *Hortus Upſal.* it is termed, *Cucubalus calycibus fructûs ovatis erectis: angulis decem: alternis venoſis.* Caſpar Bauhine calls it, *Lychnis noctiflora*; and Cammerarius, *Ocymoides noctiflorum.* It grows naturally in England, Germany, and Sweden.

Antirrhina. 14. Antirrhine Catch-fly is, *Silene foliis lanceolatis ſubciliatis, pedunculis trifidis, petalis emarginatis, calycibus ovatis.* In the *Hortus Upſal.* it is termed, *Silene petalis bilobis coronatis, floribus erectis, foliis ſubciliatis*; in the *Hortus Elth. Viſcago Americana noctiflora, antirrhini folio.* Dillenius calls it, *Silene corymbo dichotomo, floribus pedunculatis, ramis alternis erectis, foliis lanceolatis integerrimis.* It grows common in Virginia and Carolina.

Rubella. 15. Small Red-flowered Catch-fly is, *Silene erecta lævis, calycibus ſubgloboſis glabris venoſis, corollis inapertis.* Dillenius calls it, *Viſcago Luſitanica, flore rubello vix conſpicuo.* It grows naturally in Luſitania and the Eaſt.

Inaperta. 16. Smooth *Viſcago* is, *Silene caule dichotomo paniculato, calycibus lævibus, petalis breviſſimis emarginatis, foliis glabris lanceolatis.* Dillenius calls it, *Viſcago lævis, inaperto flore.* It grows naturally in the ſouthern parts of Europe.

Portensis. 17. Port Campion is, *Silene caule dichotomo paniculato; calycibus ſtriatis, petalis bifidis, foliis linearibus.* It grows naturally in Luſitania.

Cretica. 18. Cretan *Lychnis*, or Catch-fly, is, *Silene erecta lævis, calycibus erectis decangulis ſulcatis, petalis bifidis.* Dillenius calls it, *Viſcago foliis inferioribus bellidis, ſuperioribus tunicæ calyce ſtrictiore & turgidiore*; and Magnol, *Lychnis viſcoſa, foliis inferioribus bellidi ſimilibus, flore minimo carneo, ſ. rubro.* It is a native of Crete.

Armeria. 19. Broad-leaved Campion; or Lobel's Catch-fly, is, *Silene floribus faſciculatis faſtigiatis, foliis ſuperioribus cordatis glabris.* In the *Hortus Cliff.* it is termed, *Silene foliis lanceolato-ovatis glabris, floribus terminalibus faſciculatis faſtigiatis.* Caſpar Bauhine calls it, *Lychnis viſcoſa purpurea latifolia lævis*; Dodonæus, *Armerius flos quartus*; and Cluſius, *Lychnis ſylveſtris* 1. It grows naturally in England and Gaul.

Quadrifida. 20. Quadrifid Catch-fly is, *Silene petalis quadrilobis, caule dichotomo, floribus pedunculatis, foliis glabris recurvis.* In the former edition of the *Species Plant.* it is termed, *Cucubalus caule dichotomo, petalis quadrifidis.* Seguier calls it, *Lychnis Alpina, foliis anguſtis reflexis, petalis quadripartitis*; Tilli, *Lychnis ſaxatilis, linariæ folio, glabra, flore albo, petalis tricuſpidatis, ſemine limbo fimbriato*; Caſpar Bauhine, *Lychnis viſcoſa anguſtifolia major*; Cluſius, *Lychnis ſylveſtris* 10; and Lobel, *Caryophyllus minimus humilis alter exoticus.* It grows naturally on the mountainous parts of Italy and Auſtria.

Muscipula. 21. Narbonne Catch-fly is, *Silene petalis bifidis, caule dichotomo, floribus axillaribus ſeſſilibus, foliis glabris.* Sauvages calls it, *Silene floribus triſtylis, foliis lanceolatis ſeſſilibus, capſulis trilocularibus, floribus ternis*; Caſpar Bauhine, *Lychnis ſylveſtris viſcoſa rubra alterna*; and Cluſius, *Lychnis ſylveſtris* 3. It grows common in France and Spain.

Rupestris. 22. Rock Catch-fly is, *Silene floribus erectis petalis emarginatis, calycibus teretibus, foliis lanceolatis.* In the *Flora Lapp.* it is termed, *Silene floribus erectis laxè diſtantibus, caule dichotomo.* Caſpar Bauhine calls it, *Alſine Alpina glabra*; alſo, *Caryophyllus holoſteus Alpinus gramineus*; and John Bauhine, *Auricula muris Alpina glabra.* It grows naturally in the dry, mountainous parts of Sweden and Switzerland.

Viridiflora. 23. Green-flowered Catch-fly is, *Silene petalis ſemibifidis, foliis ovatis ſcabriuſculis acutis, paniculâ elongatâ ſubaphyllâ.* In the *Hortus Cliffort.* it is termed, *Silene foliis lanceolatis, caule paniculato nudo, floribus erectis.* Herman calls it, *Lychnis ocymaſtri facie, flore viridi.* It grows naturally in Luſitania.

CHAP. CCCIX.

SINAPIS, MUSTARD.

THE following foreign ſpecies of Muſtard are cultivated in ſome gardens, though they are of no greater beauty than our common Muſtard plants; ſo that their propagation ſeems to be owing to that general thirſt after plants which worthily ſtimulates noble minds. Theſe ſpecies are,

Species.
1. Common Spaniſh Muſtard.
2. Low Spaniſh or Italian White Muſtard.
3. Smooth Portugal Muſtard.
4. Hoary Portugal Muſtard.
5. China Muſtard.
6. Oriental Muſtard.

Common Spaniſh, 1. Common Spaniſh Muſtard will ariſe with an hairy, branching ſtalk to near a yard in height. The leaves are doubly-pinnated, or divided into ſeveral narrow ſegments. The flowers terminate the branches in kind of looſe ſpikes; they are ſmall, and make no ſhow; they will be in blow in July, and ripen their ſeeds in Auguſt.

Low Spaniſh, 2. Low Spaniſh, or Italian White Muſtard. This plant riſes with a ſmall, rough, branching ſtalk to ſcarcely a foot high. The lower leaves are lyre-ſhaped, ſmooth, and oblong. The flowers terminate the branches in looſe ſpikes; their colour is white; they will be in blow in June, and are ſucceeded by ſmooth, taper pods, containing ripe ſeeds in Auguſt.

Smooth Portugal, 3. Smooth Portugal Muſtard. The ſtalk is ſmooth, and divides into ſeveral branches. The lower-leaves are lyre-ſhaped, and ſmooth, but the upper ones are ſpear-ſhaped, and narrow. The flowers are produced from the tops of the branches in July, and they are ſucceeded by ſmooth, ſpreading pods, containing ripe ſeeds in the autumn.

Hoary Portugal, 4. Hoary Portugal Muſtard. The ſtalk is very rough and branching. The lower leaves are downy, rough, and lyre-ſhaped; the upper ones, alſo are downy, but they are narrow, and ſpear-ſhaped. The flowers are produced in bunches in July, and are ſucceeded by ſhort, ſmooth, cloſe pods, containing ripe ſeeds in the autumn.

China, 5. China Muſtard. This plant will grow to a yard or more in height, and the branches are produced from the ſides of the ſtalks in bunches; the lower leaves are broad, ſmooth, and jagged, but the upper ones are ſpear-ſhaped and entire. The flowers are ſmall, yellow, and grow in looſe ſpikes from the ends of the branches; they appear in June, and are ſucceeded by ſmooth, thickiſh pods, containing ripe ſeeds in Auguſt.

and Oriental Muſtard deſcribed. 6. Oriental Muſtard. This plant will grow to a yard or more in height. The leaves are large, rough, and much reſemble thoſe of the Turnep. The flowers appear from the tops of the branches in July, and they are ſucceeded by rough, four-cornered, compreſſed pods, containing the ſeeds.

Culture. All theſe ſorts are eaſily propagated by ſowing the ſeeds in March, in the places where they are to remain. After they come up, nothing more need be done than to keep them clean from weeds, and thin them where they are too cloſe. The largeſt ſhould be about a foot and a half aſunder, whilſt a foot diſtance may be ſufficient for the ſmalleſt. They will for the moſt part flower about July, and ripen their ſeeds in the autumn.

Titles. 1. Common Spaniſh Muſtard is titled, *Sinapis foliis duplicato-pinnatis: laciniis linearibus.* Tournefort calls it, *Sinapi Hiſpanicum, naſturtii folio.* It grows naturally in Spain. Hispanica.

2. Low Spaniſh Muſtard is titled, *Sinapis ſiliquis lævibus æqualibus, foliis lyratis oblongis glabris, caule ſcabro.* Tournefort calls it, *Sinapi Hiſpanicum pumilum album*; and Barrelier, *Eruca ſylveſtris, flore albo, Italica.* It grows naturally in Spain and Italy. Eruco=ides.

3 Smooth Portugal Muſtard is, *Sinapis ſiliquis lævibus patulis foliis lyratis glabris, ſummis lanceolatis, caule lævi.* It grows naturally in Portugal and Spain. Lævigata.

4. Hoary Portugal Muſtard is, *Sinapis ſiliquis racemo appreſſis lævibus, foliis inferioribus lyratis ſcabris; ſummis lanceolatis, caule ſcabro.* Herman calls it, *Eryſimum foliis ſubincanis, ſiliquis breviſſimis.* It grows naturally in Portugal and Spain. Incana.

5. China Muſtard is titled, *Sinapis ramis faſciculatis, foliis ſummis lanceolatis integerrimis.* Herman calls it, *Sinapi Indicum maximum, lactucæ folio.* It grows naturally in China and Aſia. Juncea.

6. Oriental Muſtard is titled, *Sinapis ſiliquis retrorſum hiſpidis apice ſubtetragonis compreſſis.* Tournefort calls it, *Sinapi orientale maximum, rapi folio.* It grows naturally in the Eaſt. Orien=talis.

CHAP. CCCX.

SISON, BASTARD STONE PARSLEY.

Species.

THE ſhort-lived Species of *Siſon* are,
1. Corn Parſley, or Hone-wort.
2. Biſhop's Weed *Siſon.*
3. Leaſt Water Parſnep.

Deſcription of Corn Parſley,

1. Corn Parſley, or Hone-wort. The ſtalk is upright, ſtriated, branching, and about a foot and a half high. The radical leaves are large, and beautifully pinnated; each conſiſts of eight or nine pair of oval, oblong, pointed, ſerrated folioles, terminated by an odd one; the leaves on the ſtalks are like the radical ones, but ſmaller, and grow ſingly on footſtalks at the joints. The flowers are produced in umbels from the ends and ſides of the branches; they are of a white colour, ſmall, and the umbels generally hang drooping; they appear in July and Auguſt, and the ſeeds ripen in Auguſt and September.

Biſhop's Weed Siſon,

2. Biſhop's Weed *Siſon.* The ſtalk is round, ſtriated, branching, and about a foot and a half high. The leaves are moderately large, and compoſed of a multitude of long, narrow ſegments, ſo as in ſome meaſure to reſemble the leaves of Fennel. The flowers come out in umbels from the ends of the branches; they are of a white colour, appear in July, and the ſeeds ripen in Auguſt.

and Leaſt Water Parſnep.

3. Leaſt Water Parſnep. The ſtalk is low, branching, ſtriated, and of different heights in different ſituations. The leaves are various on the different parts of the plant, tho' they are all compoſed of many narrow parts, and the lower ones have ſome reſemblance to thoſe of Fennel. The flowers come out from the tops of the ſtalks in bifid umbels; they appear in May and June, and the ſeeds ripen in July.

This plant grows naturally in ditches, and is not propagated.

Culture.

The firſt ſpecies is a Biennial, and the other two are Annuals. They are raiſed by ſowing the ſeeds in any ſoil or ſituation; but if a perſon is inclined to propagate the laſt ſort, he ſhould afford it ſome moiſt place. After the plants come up, they muſt be thinned where they are too cloſe, and kept clean from weeds; and if the ſeeds are permitted to ſcatter when ripe, they will afford plants enough for a ſucceſſion without further trouble.

Titles.

1. The firſt ſpecies is titled, *Siſon foliis pinnatis, umbellis cernuis.* Moriſon calls it, *Sium terreſtre, umbellis rarioribus*; Tournefort, *Sium arvenſe ſive ſegetum*; Gerard, *Selinum ſii foliis*; and Parkinſon, *Selinum ſegetale.* It grows naturally among corn, and in moiſt places in England.

Segetum.

2. The ſecond ſpecies is, *Siſon foliis tripinnatis radicalibus linearibus, caulinis ſetaceis: ſtipularibus longioribus.* In the *Hortus Upſal.* it is termed, *Siſon foliolis caulinis ſubcapillaribus*; in the *Hortus Cliffort. Ammi lacinulis foliorum caulis capillaribus.* Tournefort calls it, *Fœniculum Luſitanicum minimum acre*; Caſpar Bauhine, *Ammi parvum, foliis fœniculi*; and Cammerarius, *Ammi.* It grows naturally in Luſitania, Apulia, and Ægypt.

Ammi.

3. The third ſpecies is, *Siſon repens umbellis bifidis.* Van Royen calls it, *Sium foliis ſubmerſis capillaribus emerſis pinnatis*; Moriſon, *Sium minimum, foliis imis ferrulaceis*; Plukenet, *Sium minimum umbellatum, folio varians*; and Ray, *Sium puſillum foliis variis.* It grows naturally in ditches and overflowed places in England, and moſt countries of Europe.

Inunda=tum.

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CHAP. CCCXI.

SISYMBRIUM, WATER-CRESS.

Species.

THE Annuals of this genus are,
1. Helvetian *Eryſimum.*
2. Marſh *Draba.*
3. Supine Rocket.
4. Barrelier's Rocket.
5. Sand Rocket.
6. Valentine Rocket.
7. Rough Water-Creſs.
8. Flix-weed.
9. Long-podded Charlock.
10. Broad-leaved Rocket, or Hedge Muſtard.

Helvetian Eryſimum

1. Helvetian *Eryſimum.* The ſtalks are weak, branching, about a foot long, and decline towards the ground. The leaves are halberd-ſhaped, deeply ſinuated, ſmooth, and their indentures turn backward. The flowers come out in cluſters from the wings of the leaves; they are ſmall, and of a yellow colour; they appear in June and July, and the ſeeds ripen in Auguſt and September.

Marſh Draba,

2. Marſh *Draba.* The ſtalk is erect, and about two feet high. The leaves are lyre-ſhaped, and the indentures are very deep. The flowers come out in looſe, flexuoſe ſpikes from the tops of the ſtalks; they are ſmall, and of a white colour; they appear in June and July, and the ſeeds ripen in Auguſt and September.

and Supine Rocket deſcribed.

3. Supine Rocket. The ſtalk is ſlender, eight or ten inches long, and lies on the ground. The

leaves are deeply ſinuated, and indented on the edges. The flowers come out ſingly from the wings of the leaves almoſt the whole length of the ſtalks; they are ſmall, of a white colour, and are ſituated on very ſhort footſtalks; they appear about the ſame time with the former, and the ſeeds ripen accordingly.

Deſcription of Barrelier's

4. Barrelier's Rocket. The radical leaves are numerous, runcinated, indented, and very rough. The ſtalk is upright, branching, and almoſt naked. The flowers are produced along the ſides of the branches near the top; they are of a yellow colour, and have ſmooth cups; they appear in July and Auguſt, and the ſeeds ripen in September.

Sand,

5. Sand Rocket. The radical leaves are numerous, lyre-ſhaped, indented, ſerrated, rough, and hairy. The ſtalk is ſlender, hairy, branching, and adorned with a very few ſpear-ſhaped, indented, rough, and hairy leaves. The flowers come out from the tops of the ſtalks in ſmooth cups; they are of a kind of blue or violet colour, appear in June and July, and the ſeeds ripen in Auguſt.

and Valentine Rocket.

6. Valentine Rocket. The ſtalk is ſimple, upright, taper, ſmooth on the upper part, hairy underneath, and grows to about a foot high. The radical leaves are ſpear-ſhaped and indented, but thoſe on the ſtalks are not indented, and all of them are rough and hiſpid, being cloſely ſet with ſtrong white hairs. The flowers are produced from the tops of the ſtalks on ſlender footſtalks; they are of a white colour, appear in June and July, and the ſeeds ripen in Auguſt and September.

Rough-podded Water-Creſs,

7. Rough-podded Water-Creſs. The ſtalks are ſlender, divide into a few branches, and grow to eight or ten inches high. The leaves are pinnatifid, and the pinnæ are very narrow, ſpear-ſhaped, and indented. The flowers are produced in looſe ſpikes from the tops of the ſtalks; they are ſmall, and of a white or yellowiſh colour; they appear about the ſame time with the former, and the ſeeds ripen accordingly.

and Flix-weed deſcribed.

8. Flix-weed. The ſtalk is upright, round, hard, ſends out ſeveral upright branches from the ſides, and grows to a foot and a half high. The leaves are elegantly divided into a multitude of very narrow ſegments, and are of a dull green colour. The flowers come out in looſe ſpikes at the ends of the branches; they are of a deep-yellow colour, appear in June and July, and the ſeeds ripen in Auguſt.

Its virtues

The leaves of this ſpecies are eſteemed vulnerary, and the ſeeds are ſaid to be good againſt fluxes of all kinds.

Long-podded Charlock,

9. Long-podded Charlock. The ſtalks are upright, branching, and about a yard high. The leaves are runcinated, haſtated, flaccid, and the ſegments are narrow and entire. The flowers come out in looſe ſpikes from the tops of the ſtalks; they are of a white or yellow colour, appear in July and Auguſt, and are ſucceeded by very long pods, containing ripe ſeeds in September.

and Broad-leaved Rocket, deſcribed.

10. Broad-leaved Rocket, or Hedge Muſtard. The leaves are broad, runcinated, ſmooth, and deeply indented on the edges. The ſtalk is upright, ſmooth, and eight or ten inches high. The flowers come out in ſpikes from the tops of the ſtalks; they are ſmall, appear early in May, and continue in ſucceſſion until the end of ſummer.

Culture.

Theſe ſorts are ſcarcely ever propagated, unleſs it be in ſome curious botanic gardens, where a general collection of flowers is kept up. They are all eaſily raiſed by ſowing the ſeeds, ſoon after they are ripe, or the ſpring following; and after they have once flowered, and the ſeeds are ſcattered, plants enough for a ſucceſſion will ariſe without further care.

Titles.

1. Helvetian *Eryſimum* is titled, *Siſymbrium ſiliquis axillaribus ſeſſilibus ſubulatis aggregatis, foliis repando-dentatis.* In the *Hortus Cliffort.* it is termed, *Eryſimum ſiliquis in alis foliorum ſeſſilibus.* Caſpar Bauhine calls it, *Eryſimum polyceratium ſ. corniculatum*; and Dalechamp, *Iris altera.* It grows naturally in Helvetia and Italy. Polyceratium.

2. Marſh *Draba* is, *Siſymbrium racemo flexuoſo, foliis lyratis, caule erecto folioſo.* Boerhaave calls it, *Heſperis flore albo minimo, ſiliquâ longâ, folio profundè dentato.* It grows naturally in Italy. Burſifolium.

3. Supine Rocket is, *Siſymbrium ſiliquis axillaribus ſubſeſſilibus ſolitariis, foliis dentato-ſinuatis.* Van Royen calls it, *Eryſimum caule decumbente, ſiliquâ laterali ſubſeſſili.* It grows naturally in France and Spain. Supinum.

4. Barrelier's Rocket is, *Siſymbrium caule ſubnudo ramoſo, foliis radicalibus runcinatis dentatis hiſpidis.* Barrelier calls it, *Eruca ſylveſtris minor lutea, burſæ paſtoris folio, Italica.* It grows naturally in Spain and Italy. Barrelieri.

5. Sand Rocket is, *Siſymbrium caule ſubfolioſo ramoſo, foliis lyratis rectangulo-dentatis hiſpidis pilis ramoſis.* Haller calls it, *Siſymbrium aſperum, foliis pinnatis rectangulis non dentatis*; Caſpar Bauhine, *Eruca cærulea in arenoſis proveniens*; and Loeſel, *Eruca ſylveſtris major minorque, foliis ſubaſperis in orbem ſparſis.* It grows naturally in Germany. Arenoſum.

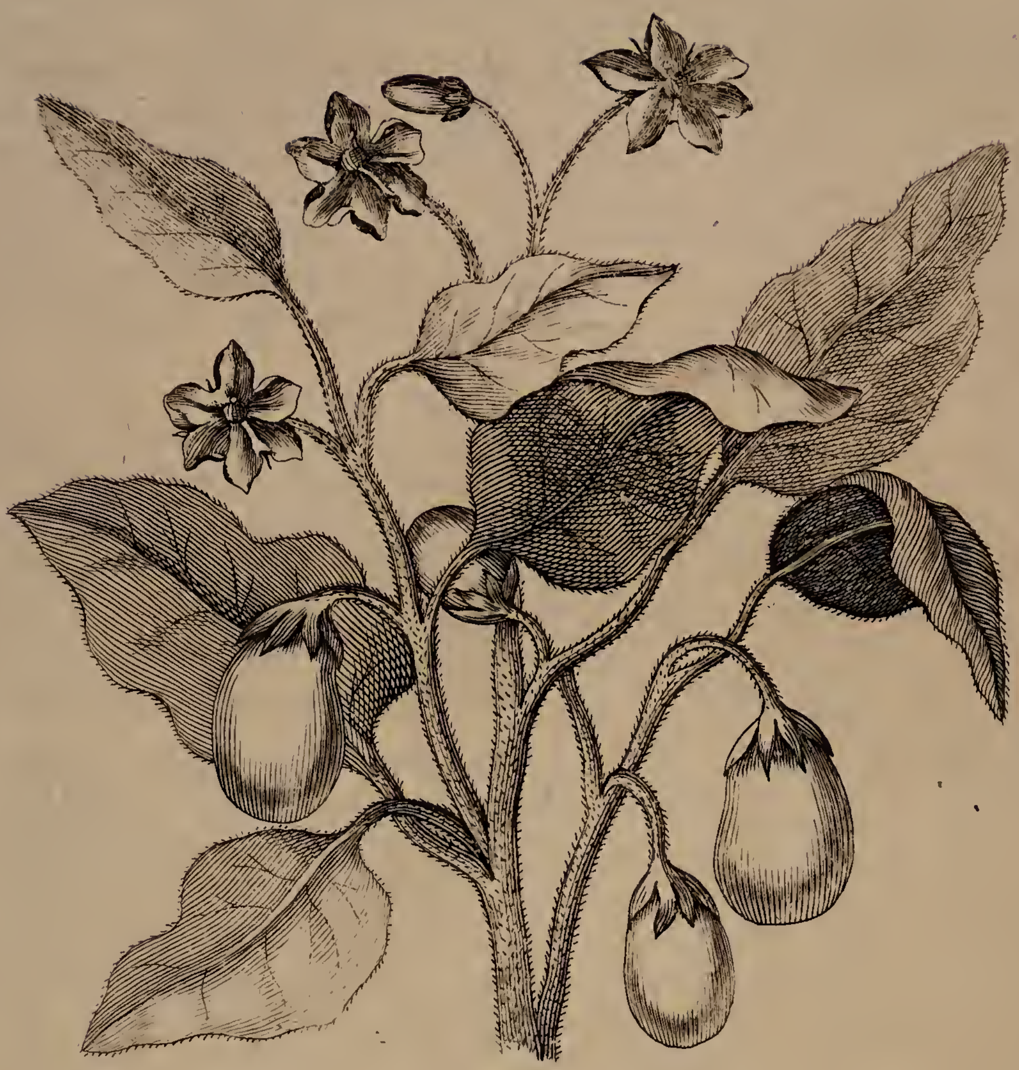
6. Valentine Rocket is, *Siſymbrium caule ſimplici erecto ſupernè glabro, foliis lanceolatis hiſpidis antrorſum dentatis.* Barrelier calls it, *Eruca hirſuta, floribus albis,* It grows naturally in the kingdom of Valentia. Valentinum.

7. Rough Water-Creſs is, *Siſymbrium ſiliquis ſcabris, foliis pinnatifidis; pinnis lineari-lanceolatis ſubdentatis, corollis calyce longioribus.* Sauvages calls it, *Siſymbrium foliis pinnatifidis ſubdentatis anguſtiſſimis*; Caſpar Bauhine, *Sinapi parvum, ſiliquâ aſperâ*; and John Bauhine, *Sinapi Monſpeſſulanum, ſiliquâ aſperâ hirſutâ.* It grows naturally in marſhy places in the South of France. Aſperum.

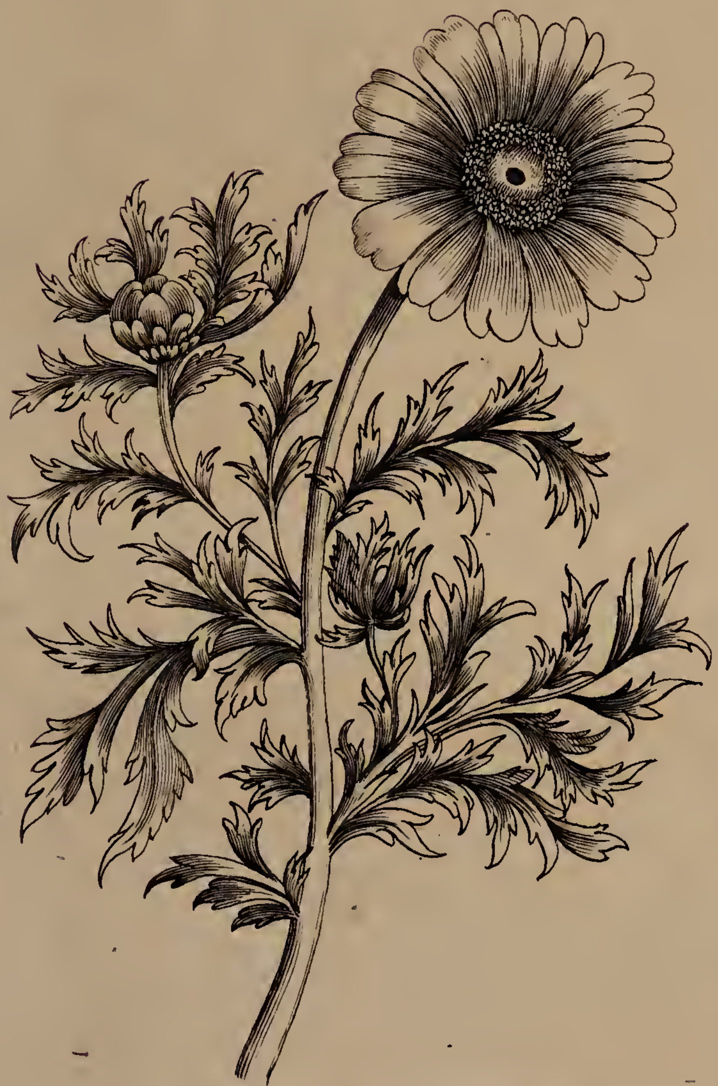
8. Flix-weed is, *Siſymbrium petalis calyce minoribus, folio decompoſito-pinnatis.* In the *Flora Lapp.* it is termed, *Siſymbrium corollâ calyce minore, foliis multifidis linearibus.* Guettard calls it, *Deſcurea*; Caſpar Bauhine, *Naſturtium ſylveſtre tenuiſſimè diviſum*; Fuchſius, *Seriphium abſinthium*; and Gerard, *Sophia chirurgorum.* It grows naturally on walls, buildings, and ſterile places in England, and moſt countries of Europe. Sophia.

9. Long-podded Charlock is, *Siſymbrium foliis runcinatis flaccidis: foliolis ſublinearibus integerrimis, pedunculis laxis.* In the *Hortus Cliffort.* it is termed, *Eryſimum ſiliquis laxis, foliis haſtato-pinnatis.* Buxbaum calls it, *Eryſimum foliis ſinapi, ſiliquis longiſſimis & ſtrictiſſimis.* It grows naturally in Armenia and Siberia. Altiſſimum.

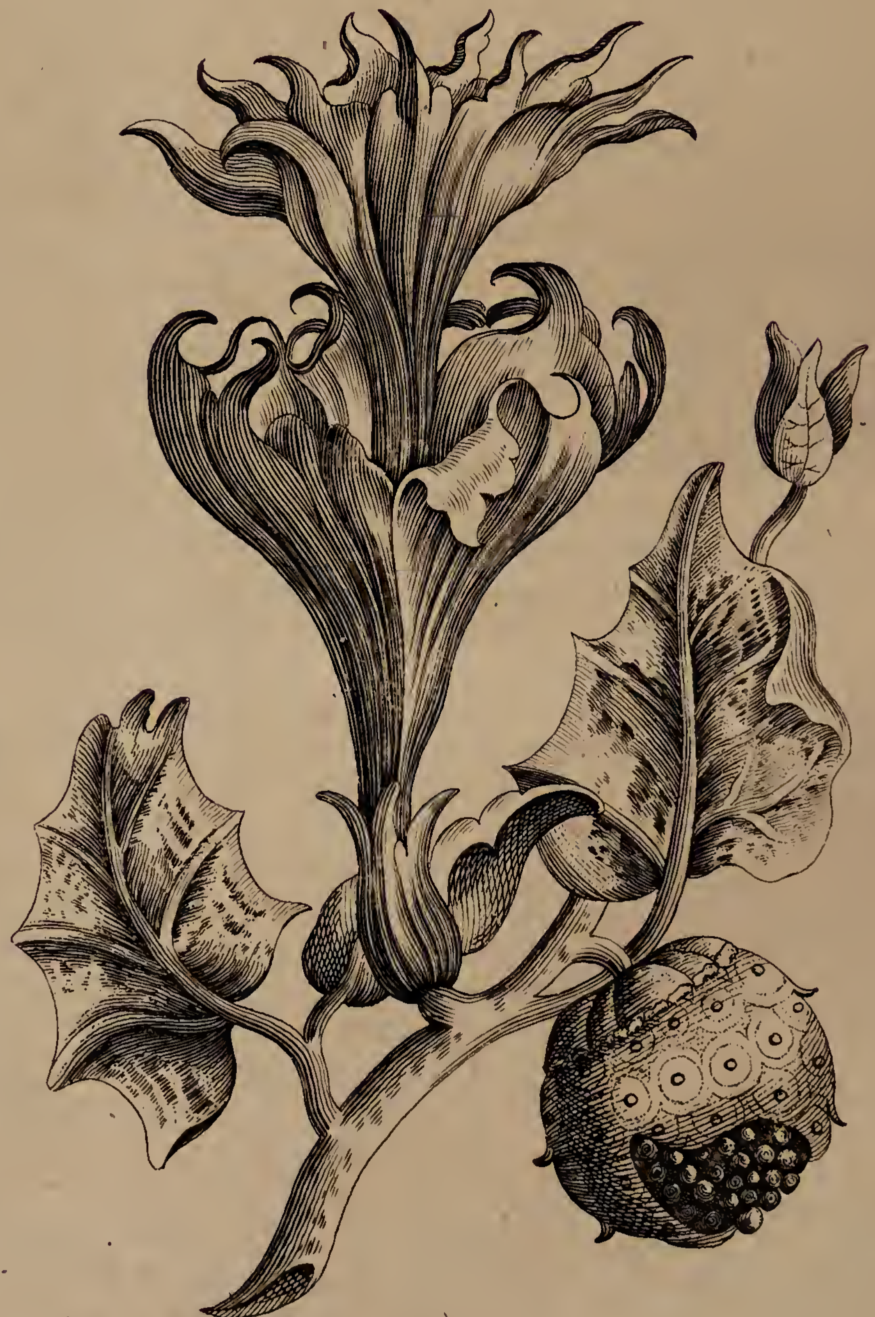
10. Broad-leaved Rocket, or Hedge Muſtard, is, *Siſymbrium foliis runcinatis dentatis nudis, caule lævi, ſiliquis erectis.* In the *Flora Suecia* it is termed, *Eryſimum foliis lyrato-pinnatis: extimo haſtato.* Caſpar Bauhine calls it, *Eryſimum latifolium majus glabrum*; Tabernæmontanus, *Eryſimum II.* and Columna, *Iris lævis Apulus, erucæ folio.* It grows naturally in England, and moſt countries of Europe. Irio.



Egg Plant



Candy Chrysanthemum



Proliferous Datura

CHAP. CCCXII.

SMYRNIUM, ALEXANDERS.

Species.

OF this genus are,
1. Common Engliſh Alexanders.
2. Cretan Alexanders.
3. American Alexanders.

Deſcription of the Common Engliſh Alexanders.

1. Common Engliſh Alexanders. The root is large, white, and of an acrid taſte. The ſtalk is round, ſtriated, jointed, branching, and four or five feet high. The radical leaves are compoſed of a multitude of ſhort, roundiſh, crenated folioles, which reſemble thoſe of Smallage, but are larger. The leaves on the ſtalks are trifoliate, ſerrated, and grow on footſtalks at the joints. The flowers are produced in large umbels from the ends of the branches; they are of a white colour, though frequently with a mixture of green; they appear in June and July, and the ſeeds ripen in Auguſt.

Its virtues

The root of this ſpecies is held pectoral, and the plant was formerly cultivated for culinary purpoſes, but has been neglected ſince the introduction of ſuch numerous kinds of excellent eſculents into our gardens. The leaves and ſeeds are often uſed in medicine, and are poſſeſſed of nearly the ſame property as thoſe of Smallage.

Cretan,

2. Cretan Alexanders. The root is large, long, and white. The ſtalk is round, ſtriated, jointed, branching, and four or five feet high. The radical leaves are compoſed of a multitude of ſhort, broad folioles; they are of a beautiful green colour, very large, and grow on long footſtalks. The leaves on the ſtalks are roundiſh, ſimple, of a yellowiſh-green colour, and embrace the ſtalks with their baſe. The flowers come out in umbels from the ends of the branches; they are of a yellowiſh colour, appear in June and July, and the ſeeds ripen in Auguſt.

and American Alexanders deſcribed.

3. American Alexanders. The ſtalk is round, jointed, branching, and two or three feet high. The leaves are pinnated, and the radical ones are large, but thoſe on the ſtalks are compoſed of three or five folioles only, which are ſerrated, and of a light-green colour. The flowers are produced in umbels from the ends of the branches; they are of a golden-yellow colour, appear in June and July, and the ſeeds ripen in Auguſt.

Culture.

All theſe plants are Biennials, and are raiſed by ſowing the ſeeds in the ſpring, in the places where they are to remain. As the roots are large, and ſtrike deep into the earth, the ground ſhould be double-dug; and after the plants come up, they muſt be thinned to proper diſtances, and kept conſtantly clean from weeds, which is all the trouble they will require. The ſummer following they will flower, and perfect their ſeeds, at which time the roots and ſtalks decay.

Titles.

1. The firſt ſpecies is titled, *Smyrnium foliis caulinis ternatis petiolatis ſerratis.* Dodonæus calls it, *Hippoſelinum*; Caſpar Bauhine, *Hippoſelinum Theophraſti, ſ. Smyrnium Dioſcoridis.* It grows naturally in England, Wales, Scotland, France, and Spain. Olusa=trum

2. The ſecond ſpecies is, *Smyrnium foliis caulinis ſimplicibus amplexicaulibus.* Dodonæus calls it, *Smyrnium amanti montis*; and Caſpar Bauhine, *Smyrnium peregrinum rotundo ſ. oblongo folio.* It grows naturally in Italy and Crete. Perfoli=atum.

3. The third ſpecies is, *Smyrnium foliis pinnatis ſerratis: poſticis ternatis, floſculis omnibus fertilibus.* In the *Hortus Cliffort.* it is termed, *Ægopodium foliis caulinis ſummis novenis.* Ray calls it, *Angelica Acadienſis, flore luteo*; Moriſon, *Angelica humilior & minor, flore luteo*; Gronovius, *Smyrnium foliis caulinis decompoſitis acuminatis*; and Plukenet, *Smyrnium aureum lobis ternis quinisve Marianum.* It grows naturally in North America. Aureum.

CHAP. CCCXIII.

SOLANUM, NIGHTSHADE.

THIS is a very large, extenſive genus, and comprehends a number of remarkable Annuals, Green-houſe, and Stove plants, beſides thoſe well-known eſculents of our Kitchen-gardens called Potatoes. The Annuals are,

Species.

1. Common Love Apples, or *Tomatos*.
2. Hard-fruited Love Apple.
3. Nightſhade of the Shops.
4. The Egg Nightſhade, or Egg Plant.
5. Pear-fruited Nightſhade.
6. Virginian Nightſhade.
7. Carolina Nightſhade.
8. American Black Nightſhade.

Deſcription of Common Love Apples.

1. Common Love Apples. Of theſe there are ſeveral varieties, though the moſt common,

as well as uſeful kind is that which now goes by the name of *Tomatoe*; a term given it by the Spaniards, the plant being in great eſteem with them for the improvement of their ſoups and ſauces; and this name has been adopted by us, and the plants have been raiſed in our gardens ſolely for the ſame purpoſes. It has a very hairy, herbaceous, branching, procumbent ſtalk, which will grow to be five or ſix feet long. The leaves are pinnated, deeply cut, and have a very diſagreeable ſcent. The flowers grow in bunches on longiſh footſtalks from the ſides of the branches; their colour is yellow, and they are ſucceeded by large, compreſſed, furrowed fruit.

Varieties

There is another ſort of Love Apples, with ſmooth, round, red fruit, and a third with ſmooth, round, yellow fruit, both of which are much ſmaller than the firſt ſort.

There is alſo a variety of this ſort with Scentleſs leaves, which is a very good property, the ſmell of the others being very diſagreeable; but then the fruit is not ſo large, and is late in the autumn before it is ripe. There is alſo the Burnet-leaved Love Apple, which is rendered leſs valuable on account of the late ripening of the fruit; and there is likewiſe another variety of them with ſmall berries of a greeniſh-yellow colour; all of which retain their difference from ſeeds, but as they are inferior to the firſt ſort, they are ſeldom propagated, except by thoſe who are deſirous of having every thing that can be procured.

Deſcription of Hard-fruited Love Apple,

2. Hard-fruited Love Apple. This plant is a diſtinct ſpecies from any of the others. The ſtalk is herbaceous, erect, branching, and will grow to about a foot and a half high. The leaves are of an oval figure, angular, and indented. The flowers grow ſingly on footſtalks from the ſides of the branches; their colour is white, and they are ſucceeded by large, hard, red, furrowed fruit, which will be ripe pretty early in the autumn.

and Common Night-ſhade.

3. Common Nightſhade. Of this plant there are a great number of varieties, which have been taken for diſtinct ſpecies by old Botaniſts, and titled accordingly. The ſort called Garden Nightſhade, which is chiefly uſed in medicine, has an upright, branching, herbaceous ſtalk. The leaves are oval, angular, and indented. The flowers are of a white colour, produced in roundiſh bunches, and are ſucceeded by black berries.

Varieties.

Beſides this, there is a variety with greeniſh-yellow, and another with fine red berries. A fourth is a larger, upright, ſpreading plant, with the common fruit; a fifth has very woolly, acute-pointed leaves; a ſixth has remarkable hairy leaves, and yellow berries; a ſeventh has ſmooth leaves, and black berries; an eighth, called the Guinea ſort, has thick branches, large ſmooth leaves, and berries like Blackberries; and a ninth has prickly ſtalks with black fruit.

Theſe varieties grow more or leſs in moſt parts of the globe; with us the beſt ſorts are propagated in gardens, and many of them are ſet in pots, to be houſed with green-houſe plants in the autumn; where they will, during the winter, have a good effect by their bunches of berries, which for this purpoſe ſhould always be the largeſt, and thoſe of the brighteſt ſorts.

Deſcription of Egg,

4. Egg Nightſhade, or Egg Plant. There are a great number of varieties of Egg Nightſhade, all of which formerly came under the denomination of Mad Apples, being generally eſteemed poiſonous, or cauſing the effects of madneſs; but now they are known not only to be wholeſome, but are cultivated in the Eaſt and moſt of the ſouthern countries of Europe for the ſake of the fruit, which the inhabitants eſteem as a great delicacy. The Engliſh do not ſo well reliſh it, and it is cultivated with us merely as a curioſity; the fruit of it being in ſhape and ſize like a very large egg, cauſing a very ſingular and ſtriking look.

The Egg Nightſhade riſes with a thick, herbaceous, round, hairy, branching ſtalk, to the height of two feet and a half. The leaves are of an oval, oblong figure, downy, and large. The flowers are produced ſingly from the ſides of the branches, and they are ſucceeded by large, egg-like fruit, which is ſoft, and full of juice.

The moſt admired of all theſe ſorts is the white fruit, becauſe it approaches neareſt to the likeneſs of an egg; but there are of it the Purple and White, the Red, the Yellow, the Incurved Yellow-fruited, the White-fruited, and the Prickly-fruited; all of which are permanent by ſeeds, and are more or leſs cultivated in the gardens of the curious.

Pear-fruited,

5. Pear-fruited Nightſhade. This is uſually called Barbadoes Batchelor's Pear, and is a plant of amazing ſingularity and beauty. It will grow to about a yard high, has a thick, round, branching ſtalk, which is armed with ſtrong, brown, crooked thorns. The leaves are heart-ſhaped, and each is compoſed of five lobes; they are downy, ſinuated, hairy, and armed with a multitude of yellow ſpines on both ſides. The flowers are produced from the ſides of the branches on ſhort thick footſtalks; they are of a purpliſh-white or pale-blue colour, and are ſucceeded by ſmooth fruit, the ſhape and ſize of a moderately large, inverted Pear, being fixed to the footſtalk by the large end. The colour is a bright-yellow; and as they are often produced in plenty at the ſame time, the appearance they make is both conſpicuous and ſtriking.

Virginian

6. Virginian Nightſhade. The ſtalk is herbaceous, prickly, and branching. The leaves are pinnatifid, being cut almoſt to the midrib into ſeveral obtuſe, ſinuated ſegments, and they are on both ſides armed with ſpines. The flowers are blue, have very prickly cups, and are ſucceeded by blackiſh, roundiſh fruit.

Carolina,

7. Carolina Nightſhade. This hath a kind of ſhrubby ſtalk, which is ſtrongly guarded by a multitude of ſharp thorns. The leaves are angular, ſinuated, and acute. The flowers are produced in long, looſe, ſingle ſpikes, which very much reſemble thoſe of Borage, and are ſucceeded by a ſmooth, roundiſh fruit.

and American Black Night-ſhade.

8. American Black Nightſhade. This hath a ſhrubby, dark-coloured ſtalk, that is ſtrongly guarded by many ſharp, blackiſh thorns. The leaves are of an oval figure, lobed, and armed with purpliſh ſpines. The flowers are of a fine violet colour, grow on very prickly, black footſtalks, and are ſucceeded by a dark-coloured, roundiſh fruit.

The culture of all theſe ſorts is as follows:

Propagation of the ſpecies.

The third ſort here enumerated, called the Common Nightſhade, being the moſt eaſy of culture, ſhall be firſt conſidered. And for this nothing more is to be done than to ſow the ſeeds in the ſpring, on a bed of common garden-mould made fine. The plants will readily come up, and after that they muſt be thinned to diſtances, according to their ſizes; the largeſt ſhould not be left nearer than two feet from each other. Thus they will flower ſtrong, without any further trouble than weeding, in July or Auguſt, and will perfect their ſeeds in October.

If you chuſe a few plants of the beſt ſorts of this ſpecies, to make a ſhow with the green-houſe plants in the winter, the beſt way will be to ſow the ſeeds in pots, which ſhould be plunged up to the rims in the common garden-mould; for they do not bear tranſplanting well. After the plants are come up, pull them all out except one, which ſhould be the ſtrongeſt. As this advances in height, place by it a trail-ſtick; train the plant up to it, and in the autumn remove it into the green-houſe with other tender plants. Thus the varieties of theſe plants will, by their different berries, have a very pretty effect in thoſe places during the greateſt part of the winter-ſeaſon.

The firſt two ſpecies, called Love Apples, are raiſed by ſowing of the ſeeds on a moderate hot-bed in March. After the plants are come up, they muſt have as much air as poſſible, and be frequently watered. In this bed they ſhould remain, without being ſhifted to any other, (for the nature of the plant does not require it) until May; when, on a moiſt day, they may be taken up, with a ball of earth to the roots, and planted in ſome warm place, in order to bring their fruit the ſooner to perfection. The procumbent ſorts muſt be faſtened to ſticks, pales, or the like; otherwiſe their fruit will be leſs conſpicuous, and late before it is ripe.

The Egg Night-ſhades, and all the other ſpecies, are raiſed in the ſame manner; but, to have them in ſtill greater forwardneſs, it will be neceſſary to ſow the ſeeds in ſmall pots, which muſt be plunged up to the rims in the mould that covers the hotbeds. When the plants come up, they muſt have much air, and frequent tho' gentle waterings; and when the heat of the firſt hotbed abates, the pots muſt be plunged up to the rims in the ſame manner into a ſecond hotbed. All the while they muſt have plenty of water, but not in too great a quantity at a time (for water is the life of theſe plants); and no opportunity is to be omitted to harden them well to the open air. In May, the plants may be turned out of the pots into the places where they are to remain; while ſome of them may be ſhifted into larger pots, to be removed into ſhelter for the winter. Thus none of them will ſuffer any check by removal. The Egg plants muſt be ſet out in common rich garden-earth, and planted at leaſt two feet aſunder, after which they muſt be duly and regularly watered. They will flower in June, and ſhew their fruit in July, which, by the end of Auguſt, if the plants have had proper attendance, will be ripe, and as large as a gooſe-egg.

Some plants of the Pear-fruited Nightſhade, and the remaining ſpecies, ſhould be ſhifted into large pots; which pots ſhould be plunged up to the rims in the common garden-mould. All ſummer they muſt have conſtant ſupply of water, and in the autumn muſt be removed into the green-houſe or ſtove, where they will bring their fruit to great perfection, and look very beautiful in ſuch places during the greateſt part of the winter.

Titles. 1. The firſt ſpecies is titled, *Solanum caule inermi herbaceo, foliis pinnatis inciſis, racemis ſimplicibus.* Caſpar Bauhine calls it, *Solanum pomiferum, fructu rotundo ſtriato molli*; and Cammerarius, *Pomum amoris.* It grows naturally in the warmer parts of America.

Lycoper=
=ſicum.

2. The ſecond ſpecies is, *Solanum caule inermi herbaceo, foliis ovatis repando-angulatis, pedunculis fertilibus unifloris cernuis.* Caſpar and John Bauhine call it, *Solanum pomiferum, fructu rotundo ſtriato duro*; and Lobel, *Solanum pomiferum herbariorum.* It grows naturally in Æthiopia and China.

Æthiopi:
=cum.

3. The third ſpecies is, *Solanum caule inermi herbaceo, foliis ovatis dentato-angulatis, umbellis nutantibus.* The various ſorts of it go by different titles. 1ſt, *Solanum caule inermi herbaceo, foliis ovatis angulatis.* This is ſtrictly the *Solanum officinarum* of Caſpar Bauhine. 2dly, Another ſort is termed, *Solanum procerius patulum vulgaris fructu*; 3dly, *Solanum annuum hirſutius, baccis luteis*; 4thly, *Solanum Guineenſe, fructu magno inſtar ceraſi*; and, 5thly, *Solanum nigrum vulgari ſimile, caulibus exaſperatis,* &c. They grow naturally in moſt parts of the world.

Nigrum.
Vulgatum α
Patulum. β
Villosum γ.
Guineense δ.
Virginicum ε.
Judaicum ζ
Melongenum.

4. The Egg Nightſhade is, *Solanum caule inermi herbaceo, foliis ovatis tomentoſis integris, calycibus aculeatis, fructu pendulo.* In the *Hortus Cliffort.* it is termed, *Solanum calycibus aculeatis, foliis ovatis integerrimis tomentoſis.* Caſpar Bauhine calls it, *Solanum pomiferum, fructu oblongo*; Dodonæus, *Mala inſana*; and Rumphius, *Trongum hortenſe.* It grows naturally in Aſia, Africa, and America.

5. Pear-fruited Nightſhade is, *Solanum caule aculeato herbaceo, foliis cordatis angulato-lobatis, utrinquè villoſis aculeatis.* Plukenet calls it, *Solanum Barbadenſe ſpinoſum annuum, fructu aureo rotundiore pyri parvi inverſi formâ & magnitudine.* It grows naturally in Virginia and Barbadoes.

Mammo=
=sum.

6. Virginian Nightſhade is, *Solanum caule aculeato herbaceo, foliis pinnatifidis utrinquè aculeatis, laciniis ſinuatis obtuſis.* Dillenius calls it, *Solanum Americanum laciniatum ſpinoſiſſimum*; and Plukenet, *Solanum annuum Virginianum nigricans ſpinoſiſſimum, flore cæruleo.* It grows naturally in America.

Virgini=
=anum.

7. Carolina Nightſhade is, *Solanum caule aculeato annuo, foliis haſtato-angulatis, aculeis utrinquè rectis, racemis laxis.* In the *Hortus Cliffort.* it is termed, *Solanum caule aculeato fruticoſo, foliis ovatis lateralibus laciniatis, aculeis utrinquè rectis.* Dillenius calls it, *Solanum Caroliñienſe ſpinoſum, boraginis floribus ſpicatis.* It is a native of Carolina.

Caroli=
=niense?

8. American Black Nightſhade is, *Solanum caule aculeato fruticoſo, foliis ovatis obtuſè lobatis, aculeis utrinquè rectis, ſuperioribus coloratis.* Boerhaave calls it, *Solanum Americanum, caule et pedunculo nigro, foliis acanthi ſpinoſis.* It grows naturally in America.

Fusca=
=tum.

CHAP. CCCXIV.

SONCHUS, SOWTHISTLE.

Species. THE Annuals of this genus are;

1. Common Sowthiſtle.
2. Montpelier Sowthiſtle.
3. Alpine Sowthiſtle.
4. Virginian Sowthiſtle.

Deſcription of Common, 1. Common Sowthiſtle is ſo well known as to need no deſcription. It grows too common in gardens, and is always eradicated as a weed; though it is a plant of great virtue, and was formerly much uſed as a cooler in medicine; but at preſent it is little regarded, and its employment chiefly reſpects the feeding of ſwine, rabbits, &c. There are many varieties of it; ſome having finely-jagged leaves; others are rough and prickly, and ſome are of a fine pale-green colour. They are to be met with at all times of the year, but flouriſh moſt from June until the end of Auguſt.

Montpelier, 2. Montpelier Sowthiſtle. The ſtalk is very ramoſe, hairy, and poſſeſſed of a clammy or glutinous matter. The leaves are ſmooth, tender, and beautifully cut almoſt to the mid-rib into many elegant ſegments. The flowers come out from the ends and ſides of the branches on downy footſtalks; they are of a yellow colour, appear in July, and the ſeeds ripen in Auguſt.

Alpine, 3. Alpine Sowthiſtle. The ſtalk is upright, thick, creſted, and five or ſix feet high. The leaves are runcinated, and terminate in a large, heart-ſhaped, triangular lobe. The flowers come out in bunches from the tops of the ſtalks, growing on ſcaly footſtalks; they are of a blue colour, appear in July and Auguſt, and the ſeeds ripen in September.

and Virginian Sowthiſtle 4. Virginian Sowthiſtle. The ſtalk is thick, erect, and in good land will often grow to be eight or ten feet high. The radical leaves are very broad and obtuſe; but thoſe on the ſtalks are narrower, and cut almoſt to the mid-rib. The flowers come out in bunches from the tops of the ſtalks, are ſmall, and of a blueiſh colour; they appear about the ſame time with thoſe of the former ſpecies, and the ſeeds ripen accordingly.

Culture. The firſt ſpecies is never cultivated. The three laſt, being of foreign growth, are found in ſome curious collections of plants. They are raiſed by ſowing the ſeeds as ſoon as they are ripe; and after they have once flowered and perfected their ſeeds, the wind will blow them about like thoſe of our Common Sowthiſtle, and freſh plants in conſequence will come up in every part of the garden.

Titles. Oleraceus. 1. Common Sowthiſtle is titled, *Sonchus pedunculis tomentoſis, calycibus glabris*. In the *Flora Lapp.* it is termed, *Sonchus annuus ramoſus diffuſus, foliis laciniatis*. Van Royen calls it, *Sonchus caule ramoſiſſimo, foliis ſummis amplexicaulibus, pedunculis inæqualibus*; Caſpar Bauhine, *Sonchus lævis laciniatus latifolius*; alſo, *Sonchus lævis minor paucioribus laciniis*; alſo, *Sonchus aſper laciniatus*; alſo, *Sonchus aſper non laciniatus*; Gerard, *Sonchus lævis*; and Parkinſon, *Sonchus lævis vulgaris*. It grows naturally on the banks of new-made ditches in gardens, fields, and cultivated places, in England and all other countries of Europe.

Tenerrimus. 2. Montpelier Sowthiſtle is, *Sonchus pedunculis tomentoſis, calycibus piloſis*. Caſpar Bauhine calls it, *Sonchus lævis in plurimas & tenuiſſimas lacinias diviſus*; John Bauhine, *Chondrilla lutea*; and Plukenet, *Hieracium foliis in tenues lacinias profundè ſectis, flore luteo*. It grows naturally in the South of France and in Italy.

Alpinus. 3. Alpine Sowthiſtle is, *Sonchus pedunculis ſquamoſis, floribus racemoſis, foliis runcinatis*. In the *Hortus Cliffort.* it is termed, *Sonchus caule erecto, foliis pinnato-haſtatis, apice cordato-triangulis, floribus racemoſis*; and in the *Flora Lapp.* *Sonchus Lapponum altiſſimus, floribus cæruleis*. Caſpar Bauhine calls it, *Sonchus lævis laciniatus cæruleus, ſ. Sonchus Alpinus cæruleus*; and Cammerarius, *Sonchus cæruleus*. It grows naturally on the Alps of Lapland, Helvetia, and Auſtria.

Floridanus 4. Virginian Sowthiſtle is, *Sonchus pedunculis ſubſquamoſis, foliis lyrato-haſtatis*. Van Royen calls it, *Sonchus caule erecto, foliis pinnato-dentatis, radicalibus latiſſimis obtuſis, floribus racemoſis*; Vaillant, *Sonchus annuus Canadenſis altiſſimus laciniatus, flore cæruleſcente*; and Boerhaave, *Lactuca altiſſima, folio ſonchi laciniato, flore parvo cæruleo*. It grows naturally in Virginia and Canada.

CHAP. CCCXV.

SPERGULA, SPURREY.

Species.

OF this genus there are two Annuals, called,
1. Corn Spurrey.
2. Small Spurrey.

Deſcription of Corn

1. Corn Spurrey. The ſtalks are ſmall, tender, branching, knotty, and ſix or eight inches high. The leaves are ſmall, narrow, and grow in whorls round the ſtalks at the joints. The flowers come out from the ends and ſides of the branches on ſlender footſtalks; they are ſmall, of a white colour, appear in July and Auguſt, and the ſeeds ripen in Auguſt and September.

and Small Spurrey.

2. Small Spurrey. The ſtalk is ſlender, weak, knotty, and five or ſix inches high. The leaves are filiforme, and grow in whorls round the ſtalks at the joints. The flowers are produced from the tops of the ſtalks on ſlender footſtalks, are ſmall, and of a white colour; they appear in July, and the ſeeds ripen in Auguſt.

Culture.

The firſt ſpecies is cultivated in Brabant for feeding of cattle in winter; and it is ſometimes raiſed in England, for the ſame purpoſe, on light, ſandy, ſterile ſoils, where hardly any thing elſe will grow.

The ſeeds ſhould be ſown the end of July or early in Auguſt; and the plants, by the beginning of winter, will be nearly at their full growth. Thus they will become excellent for feeding of cattle, and for affording the beſt ſort of milk, at a time when other fodder is ſcarce. As the ſeeds ſown in Auguſt do not riſe early enough for the plants to flower and perfect their ſeeds, a ſufficient quantity ſhould be ſown in April, in order to raiſe ſeeds to be ſown for winter's uſe. The ground for their reception ſhould be ploughed, harrowed, and made fine, as for Turneps; and twelve pounds of ſeeds will be ſufficient to ſow an acre.

Titles.

Arvenſis.

1. Corn Spurrey is titled, *Spergula foliis verticillatis, floribus decandris.* In the *Flora Lapp.* it is termed, *Spergula fructu pendulo.* Dodonæus calls it, *Spergula*; Caſpar Bauhine, *Alſine ſpergula dicta major*; and Gerard, *Saginæ ſpergula.* It grows naturally in cultivated fields, and ſandy, gravelly places, in England, and moſt countries of Europe.

Pentandra.

2. Small Spurrey is, *Spergula foliis verticillatis, floribus pentandris.* Tournefort calls it, *Alſine ſpergulæ facie minima, ſeminibus emarginatis*; Sauvages, *Spergula foliis filiformibus, verticillatis raris, ſeminibus nigris*; Magnol, *Alſine ſpergulæ facie minima*; and Moriſon, *Spergula annua, ſemine foliaceo nigro circulo membranaceo albo cincto.* It grows naturally in England, France, Germany, and Spain.

CHAP. CCCXVI.

SPERMACOCE, BUTTON-WEED.

OF this genus there is an Annual, called Narrow-whorled Button-Weed.

The plant deſcribed.

The ſtalk is upright, firm, ſomewhat angular, ſends out branches by pairs, and grows to be two feet high. The leaves are ſpear-ſhaped, ſmooth, and grow oppoſite to each other at the joints. The flowers are produced in ſlender whorls along the upper parts of the ſtalks; they are ſmall, of a white colour, appear in July and Auguſt, and the ſeeds ripen in the autumn.

Culture.

It is propagated by ſowing the ſeeds on a good hotbed early in the ſpring. When the plants are three or four inches high, they muſt be ſet ſeparately in pots filled with light, rich earth, and plunged again into a freſh hotbed. Here they may remain until the heat is abated, when they ſhould be hardened by degrees to the open air; and in June a certain ſhare of them ſhould be ſet abroad in ſome warm, well-ſheltered part of the garden, obſerving to turn the mould out of the pots with the roots, and to plant them ſo carefully, that, if poſſible, the mould may not even be looſened. Thus the plants will meet with no check on their removal, but will advance uniformly towards perfection, and flower in Auguſt; and if the ſeaſon proves favourable, the ſeeds will ripen in the autumn. A few of the plants ſhould be left in the hotbed, to be covered with the glaſſes, the better to enſure the ripening of the ſeeds, in caſe much wet, and a cold, unpropitious ſeaſon, ſhould happen.

Titles.

Tenuior.

This ſpecies is titled, *Spermacoce glabra, foliis lineatis, ſtaminibus incluſis.* Van Royen calls it, ſimply, *Spermacoce*; Loefling, *Spermacoce annuum, foliis lanceolatis glabris, floribus verticillatis*; Dillenius, *Spermacoce verticillis tenuioribus*; and Plukenet, *Anonymos Americana, foliis parietariæ ſcabris, floribus albis ad foliorum ortum vix conſpicuis.* It grows naturally in Carolina.

Claſs and order in the Linnæan Syſtem. The characters.

Spermacoce is of the claſs and order *Tetrandria Monogynia*; and the characters are,

1. CALYX is a ſmall, permanent perianthium, ſituated above the germen, and indented in four parts at the top.

2. COROLLA is an infundibuliforme petal. The tube is cylindrical, ſlender, and longer than the calyx. The petal is divided into four patent, reflexed, obtuſe ſegments.

3. Stamina are four awl-ſhaped filaments ſhorter than the corolla, having ſimple antheræ.

4. Pistillum conſiſts of a roundiſh, compreſſe dgermen, ſituated below the calyx; and a ſimple, bifid ſtyle, with obtuſe ſtigmas.

5. Pericarpium is compoſed of two capſules growing together; theſe are oblong, obtuſe, two-horned, gibbous on one ſide, and plane on the other.

6. Semen. The ſeed is ſingle, and roundiſh.

CHAP. CCCXVII.

SPHÆRANTHUS, GLOBE FLOWER.

Species.

THERE are two ſpecies of this genus; viz.
1. Indian Globe Flower.
2. African Globe Flower.

Deſcription of Indian,

1. Indian Globe Flower. The ſtalk is herbaceous, branching very little, and about a foot and a half high. The leaves are ſpear-ſhaped, ſerrated, ſeſſile, placed alternately, and have membranes running from the baſe along the ſtalks. The flowers come out in globular heads from the ſides of the ſtalks, elevated on membranaceous footſtalks; they are of a purpliſh colour, appear in July and Auguſt, and the ſeeds ripen in the autumn.

and African Globe Flower.

2. African Globe Flower. The ſtalk is herbaceous, branching a little near the top, and eight or ten inches high. The leaves are oblong, ſpear-ſhaped, ſerrated, grow alternately, and have membranes running from their baſe along the ſtalk. The flowers come out from the ends of the branches on ſmooth footſtalks; they are of a pale-yellow colour, appear in July and Auguſt, and the ſeeds ripen in the autumn.

Method of propagation.

Theſe plants are raiſed by ſowing the ſeeds on a hot-bed early in the ſpring. When the plants are fit to remove, each muſt be ſet in a ſeparate pot filled with light, rich earth, which muſt be then plunged up to the rims in the bed. The plants muſt be watered and kept ſhaded until they have taken root; after that they muſt have more air, and be finally hardened to the open air, when the ſecond ſort may be planted out in ſome warm part of the garden, obſerving to diſturb the mould about the roots as little as poſſible. But of the firſt ſort, a proper ſhare ſhould be continued in the bed, to be protected with the glaſſes againſt unfavourable weather, or there will be little probability of obtaining ripe ſeeds for a ſucceſſion.

Titles.

1. The firſt ſpecies is titled, *Sphæranthus pedunculis criſpatis.* Burman calls it, *Sphæranthus purpurea alata ſerrata*; and Plukenet, *Scabioſa Indica major, caule & pediculis folioſis.* It grows naturally in India. Indicus.

2. The ſecond ſpecies is, *Sphæranthus pedunculis lævibus.* Vaillant calls it, *Sphæranthus, folio oblongo, minor*; and Plukenet, *Scabioſa minor, alato caule Maderaſpatana.* It grows naturally in Africa and Aſia. Africanum.

Claſs and order in the Linnæan Syſtem. The characters.

Sphæranthus is of the claſs and order *Syngeneſia Polygamia Segregata*; and the characters are,

1. Calyx is globular and imbricated; the ſcales being acuminated, permanent, and on every ſide ſurrounding the general receptacle.

The partial perianthium conſiſts of five narrow, equal, erect leaves, containing many florets.

2. Corolla. The hermaphrodite florets are three in the diſk, and the females for the moſt part are five in the radius.

Each hermaphrodite floret has one funnel-ſhaped petal, cut at the brim into five ſpreading ſegments.

The female florets are awl-ſhaped, tubular, ſmall, and trifid.

3. Stamina of the hermaphrodites are five very ſhort filaments, with a cylindrical, tubular anthera, that is longer than the corolla.

4. Pistillum of the hermaphrodites conſiſts of a turbid germen, a ſetaceous ſtyle the length of the ſtamina, and a ſtigma divided into two parts.

5. Pericarpium. There is none.

6. Semina of the hermaphrodites are none. In the females they are ſingle, oblong, and naked.

CHAP. CCCXVIII.

SPIGELIA, WORM GRASS.

THERE is only one ſpecies of this genus yet known, called Worm-graſs.

The plant deſcribed.

The ſtalk is herbaceous, upright, ſends out ſide branches by pairs oppoſite, and grows to a foot and a half high. The leaves are oval, ſpear-ſhaped, and grow by fours in a radiated manner, ſurrounding the upper parts of the ſtalks and branches at the joints. The flowers are produced from the ends of the branches in ſhort ſpikes; they are of a greeniſh colour, and are all arranged on one ſide the footſtalk; they appear in July and Auguſt, and the ſeeds ripen in September.

This ſpecies has the name Worm-graſs, from its great power in killing the worms in the human body.

Culture.

This plant is raiſed by ſowing the ſeeds early in the ſpring, in pots filled with rich earth, and then plunging them up to the rims in a good bark bed. When the plants are fit to remove, each muſt have a ſeparate pot, be plunged again into the bark, and be conſtantly ſhaded until they have taken root. After that they muſt have more air, and frequent waterings; but they muſt not be taken out of the bed, if you chuſe to raiſe ſeeds for a ſucceſſion.

Titles. Anthel-mia.

This being the only ſpecies of the genus, it is named ſimply *Spigelia*. Brown calls it, *Spigelia quadrifolia, ſpicis terminalibus*; and Plumier, *Araphabaca quadrifolia, fructu teſticulato.* It grows naturally in moſt iſlands of the Weſt Indies.

Claſs and order in the Linnæan Syſtem.

Spigelia is of the claſs and order *Pentandria Monogynia*; and the characters are,

The characters.

1. Calyx is a ſmall, monophyllous, permanent perianthium, divided into five acuminated parts.
2. Corolla is one funnel-ſhaped petal. The tube is much longer than the calyx. The limb is cut into five broad, ſharp-pointed, ſpreading ſegments.
3. Stamina are five ſimple filaments, with ſimple antheræ.
4. Pistillum conſiſts of a germen compoſed of two globes, an awl-ſhaped ſtyle the length of the tube, and a ſimple ſtigma.
5. Pericarpium conſiſts of two globular capſules joined together.
6. Semina. The ſeeds are numerous, ſmall, and roundiſh.

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CHAP CCCXIX.

STACHYS, BASE HOREHOUND.

THE Annuals of *Stachys* are very moderate flowers, and but very faintly recommend themſelves to our notice in the garden. They are,

Species.

1. Annual German Field Betony.
2. Annual Spaniſh Stinking Hedge Nettle.
3. Annual Engliſh Upright Ground Ivy.

Deſcription of Annual German Field Betony,

1. Annual German Field Betony grows naturally on arable land not only in Germany, but alſo in Italy, Switzerland, and France. The leaves are of different figures in the different parts of the plant; the lower leaves are oval, rough, and obtuſe; thoſe about the middle of the plant are oblong, and have footſtalks; and the uppermoſt are ſpear-ſhaped, trinervous, and ſit cloſe, without any footſtalks. The flowers grow in whorls round the ſtalks; they are of a yellowiſh-white colour, and have prickly cups.

This ſpecies was formerly under the article *Betonica*.

Annual Spaniſh Stinking Hedge Nettle,

2. Annual Spaniſh Stinking Hedge Nettle. The ſtalks are proſtrate, four-cornered, fiſtular, and hairy. The leaves are heart-ſhaped, venoſe, hairy on both ſides, and have footſtalks; thoſe on the lower parts of the ſtalks are obtuſe, and bluntly ſerrated; thoſe on the higher parts are acute, and ſerrated acutely. The flowers grow in whorls round the ſtalks; they are ſpotted with purple, and have ariſtated cups.

This ſpecies was formerly under the article *Galeopſis*.

and Annual Engliſh Upright Ground Ivy.

3. Annual Engliſh Upright Ground Ivy. This plant grows naturally in the corn-fields in many parts of England. The ſtalks are weak, upright, four-cornered, very rough, and branching. The leaves are heart-ſhaped, oblong, obtuſe, crenated, and hairy. The flowers are produced in whorls; their colour is white, and they are ſpotted with purple on the middle lip.

This ſpecies was formerly under the article *Glecoma*.

Culture.

All theſe ſorts are eaſily propagated by ſowing the ſeeds any time in the ſpring or autumn, ſoon after they are ripe. After the plants appear, they muſt be thinned where they come up too cloſe, and kept clean from weeds; and this is all the trouble they will require; for after that they will flower, and ſcatter their ſeeds, which will regularly come up, and of themſelves ſupport a conſtant ſucceſſion.

Titles. Annua 1. Annual German Field Betony is titled, *Stachys verticillis ſexfloris, foliis ovato-lanceolatis trinerviis lævibus petiolatis.* In the former edition of the *Species Plantarum* it is titled, *Betonica verticillata, calycibus ſpinoſis.* In the *Hortus Clifort.* it is termed, *Stachys foliis lanceolatis ſeſſilibus baſi attenuatis.* Haller calls it, *Betonica foliis inter diſſitos verticillos longioribus ellipticis ſerratis*; Caſpar Bauhine, *Sideritis arvenſis latifolia glabra*; and Tabernæmontanus, *Alyſſum majus.* It grows naturally in Germany, &c.

Hirta. 2. Spaniſh Stinking Hedge Nettle is, *Stachys verticillis ſexfloris, caulibus proſtratis, corollis labio ſuperiore bifido divaricato reflexo.* In the former edition of the *Species Plantarum* it is termed, *Galeopſis caule piloſo, calycibus labio corollæ ſuperiore longioribus.* Caſpar Bauhine calls it, *Marrubium nigrum rotundifolium*; and Cluſius, *Ocymum Valentinum.* It grows naturally on the hilly parts of Spain, Italy, and the Eaſt.

Arvensis. 3. Upright Ground Ivy is, *Stachys verticillis ſexfloris, caule debili, foliis obtuſis nudiuſculis, corollis calyce vix longioribus.* In the former edition of the *Species Plantarum* it is termed, *Glecoma foliis cordatis oblongis crenatis, caule hiſpido erecto*; in the *Flora Suecia, Sideritis calycibus ſubinermibus hiſpidis.* Caſpar Bauhine calls it, *Sideritis alſines trixaginis folio*; Ray, *Sideritis humilis, lato obtuſo folio*; Tournefort, *Marrubiaſtrum vulgare*; Herman, *Lamium paludoſum Belgicum.* It grows naturally in England, and moſt parts of Europe.

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CHAP. CCCXX.

STATICE, THRIFT, or SEA PINK.

OF this genus there are,

Species. 1. Small Annual Sea Lavender.
2. Fine-flowered Sea Lavender.
3. Sinuated Sea Lavender.

Small Annual, 1. Small Annual Sea Lavender. The leaves are obverſely oval, oblong, and ſet with numerous rough tubercles. The ſtalks are naked, round, divide into a few branches near the top, and grow to about eight or ten inches high. The flowers come out in ſhort ſpikes from the ends of the branches; they are of a pale-blue colour, appear in July and Auguſt, and are ſometimes ſucceeded by ripe ſeeds in the autumn.

Fine-flowered, 2. Fine-flowered Sea Lavender. The leaves are numerous, large, oblong, ſpear-ſhaped, of a bright-green colour, and terminate in a rigid, prickly point. The ſtalk is dichotomous, edged on each ſide by a ſtiff membrane, and grows to about a foot and a half high. The flowers come out in cluſters from the ends and ſides of the branches; they are numerous, large, and of a ſilvery-white colour; they appear in July and Auguſt, and are ſometimes ſucceeded by ripe ſeeds in the autumn.

and Sinuated Sea Lavender deſcribed. 3. Sinuated Sea Lavender. There are ſeveral varieties of this ſpecies, but two in particular widely differ from each other, called,

Varieties. Spleenwort-leaved Sea Lavender.
African Sea Lavender.

Spleen-wort-leaved, Spleenwort-leaved Sea Lavender. The root is long, narrow, white within, and ſtrikes deep into the ground. The radical leaves are long, narrow, ſinuated alternately almoſt to the mid-rib, and lie flat on the ground. The ſtalk is upright, a foot and a half high, branching near the top, and garniſhed with three narrow, rough leaves at the joints, which ſit cloſe, and have rough membranes running from their baſe down the ſtalk. The flowers come out in panicles from the tops of the plants, having winged footſtalks; they are of a light-blue colour, appear in July and Auguſt, and are ſometimes ſucceeded by ripe ſeeds in the autumn.

and African Sea Lavender deſcribed. African Sea Lavender. The radical leaves are ſpear-ſhaped, hairy, and ſerrated on their edges. The ſtalk is upright, branching near the top, and grows to more than a foot high. The leaves grow by threes at the joints; they are narrow, pointed, and have membranes running from the baſe downward along the ſtalk. The flowers are produced in panicles from the tops of the plant, but their footſtalks are not winged like thoſe of the preceding variety; they are of a bright-blue colour, and from their middle proceeds another ſmall flower of a pale-yellow colour; they appear in July and Auguſt, and are very rarely ſucceeded by ſeeds in England.

Culture. The firſt ſpecies is an Annual, the others are all Biennials. The firſt muſt be raiſed on a hot-bed in the ſpring, in order to bring the plants forward, otherwiſe the ſeeds will rarely ripen. In May they muſt be ſet out, with a ball of earth to each root, in warm, well-ſheltered places; and when they come into flower, if wet weather happens, a few of them ſhould be covered with Carnation-glaſſes, to protect them from the wet, and the ſeeds will then mature to perfection for a ſucceſſion.

The ſeeds of all the other ſorts ſhould be ſown in the autumn, as ſoon as they are ripe; for if they are left until the ſpring, they will rarely come up that ſeaſon. They ſhould be ſown in the places where they are to remain, in the warmeſt part of the garden; and when the plants come up, they ſhould be thinned to proper diſtances, and weeded and watered in dry weather all ſummer. At the approach of hard weather in winter, three or four rows of Gorſe or Fir branches ſhould be ſtuck round the beds, which will break the edge of the black winds, and in general enſure the ſafety of the plants; though it would be adviſeable to hoop the beds of the African Sinuated ſort, to be covered alſo with mats; and alſo to ſet a few plants in pots to be houſed, otherwiſe there will be great danger of loſing all the ſorts by a hard winter. On the return of mild weather, the Gorſe and all covering muſt be taken away, that the plants may enjoy the full benefit of the ſun and air; and when they come into flower, they muſt be protected from the wet with glaſſes, otherwiſe there will be little hopes of obtaining good ſeeds. But as they are ſo precarious, whoever is deſirous of having a regular ſucceſſion of theſe plants, ſhould be regularly ſupplied with the ſeeds from the places where they naturally grow.

Titles.

Echioides 1. Small Annual Sea-Lavender is titled, *Statice ſcapo paniculato tereti, foliis tuberculatis.* Sauvages calls it, *Statice foliis obverſe-ovatis verrucoſis, caule ramoſo nudo*; and Magnol, *Limonium minus annuum, bullatis foliis.* It grows naturally in the South of France.

Speciosa. 2. Fine-flowered Sea Lavender is, *Statice ſcapo dichotomo ancipiti, foliis lanceolatis mucronatis, floribus aggregatis.* In the *Hortus Upſal.* it is termed, *Limonium foliis lanceolatis mucronatis radicalibus, caule ancipiti dichotomo, ſtipulis ſimplicibus.* Ray calls it, *Limonium floribus elegantiſſimis*; and Amman, *Limonium elatius, plantaginis foliis procumbentibus in aculeum terminatis, floribus albis in capitula congeſtis.* It grows naturally in Tartary.

3. Sinuated Sea Lavender is, *Statice caule herbaceo, foliis radicalibus alternatim pinnato-ſinuatis: caulinis ternis triquetris ſubulatis decurrentibus.* In the *Hortus Cliffort.* it is termed, *Statice foliis caulinis decurrentibus.* Rauwolf calls it, *Limonii ſpecies*; Cluſius, *Limonium Rauwolfianum*; Martin, *Limonium Africanum, caule alato, foliis integris hirſutis, petalo pallidè flavo, calyce amœnè-purpureo*; and Shaw, *Limonium caulibus alatis, aſplenii foliis minus aſperis, calycibus acutioribus flaveſcentibus:* It grows naturally in Sicily, Paleſtine, and Africa. Sinuata.

CHAP. CCCXXI.

TAGETES, AFRICAN MARIGOLD.

WE come now to thoſe common but very beautiful, and truly valuable Annuals, called,

Species.

1. The French Marygold.
2. The African Marygold.
3. The Chili Marygold.

Theſe are all the diſtinct ſpecies that belong to this genus, though ſuch numbers of imaginary ones have been framed by unſkilful Botaniſts.

The French,

1. The French Marygold. This plant, by its being ſo named, may probably induce the Gardener to believe that it grows naturally in France; but to prevent his falling into ſuch an error, we muſt acquaint him, that the plant is an African plant, and was ſo called, becauſe it was known to the French, and cultivated in their gardens ſome years before it figured in ours. Probably, we firſt of all received the ſeeds from the French; and therefore it is no matter of wonder that the plant ſhould gain the appellation of French Marygold, and that that word ſhould be continued to diſtinguiſh it from the other ſpecies among Gardeners ever ſince.

The French Marygold, then, has ſtalks that will meaſure near a yard in length; but being exceeding ſlender, branching, and diffuſe, the plant ſeldom riſes higher from the ſurface of the ground than about a foot and a half. The leaves are pinnated, large, and of a deep-green colour. The flowers are produced in plenty all over the plants; they terminate the branches, and riſe from the wings of the leaves in ſuch profuſion, that the plant often appears covered with them. They are moderately large, and their variety in colouring is endleſs; they differ greatly in ſize, ſome being very large, and others, though ſmaller, make ample amends for that defect, by ſhewing their colours more perfect, oppoſite, and delightful; while ſome Single ones lay claim to the utmoſt reſpect, by their ſweetly-variegated petals, which ſeem to outvie moſt of the ſtriped flowered kinds. Had Nature denied this plant all kind of ſcent, its value would have been exquiſite, though unpoſſeſſed of an agreeable odour; but what greatly leſſens it in the eſteem of moſt is, inſtead of that fine fragrance granted to ſome plants, this is poſſeſſed of a ſtrong, diſagreeable ſmell, which occaſions its being ſo far abhorred, that few care to handle it, and moſt chuſe to admire its charms at a diſtance only. They will be in flower in July, and continue their ſucceſſion of blow until the froſt ſtops them.

and African Marygold deſcribed.

2. The African Marygold riſes with a fine, upright, firm, branching ſtalk, to the height of about a yard. The leaves are pinnated, large, and of a pale green colour. The flowers are numerous, large, and very double; they do not admit of variegations, like the former ſort, but run through all the tints of yellow, from the paleſt lemon to the deepeſt orange colour. The petals alſo of the flowers vary by culture; ſometimes they appear waved, at other times fiſtular or quilled; and when multiplied to a great degree, theſe laſt ſorts, called Quilled Africans, are by many held in great eſteem; whilſt others again prefer the pale-yellow, or the deep-yellow, or orange-coloured, when they are found moſt perfect in their full double ſtate.

Theſe flowers ſtink as bad, if not worſe than the French Marygold; though there is a variety of it that is tolerably ſweet-ſcented, on which account many are curious in collecting the ſeeds; but as it is a variety only, let them be preſerved with the utmoſt care, or others of fœtid ſmell will make their appearance with the ſweet kinds, when they come to blow.

3. The

Chili Marygold deſcribed.

3. The Chili Marygold is a very tall-growing plant; it riſes with an erect, ſingle, firm ſtalk to eight feet high. The leaves are pinnated, and the lobes are oblong, narrow, and pointed. The flowers are produced in ſmall cluſters on ſcaly, erect footſtalks; their colour is white, and they are ſeldom in full blow before the beginning of October.

This ſpecies is more difficult to bring to perfection, and is greatly inferior in beauty to either of the other ſorts.

Culture.

The French and African Marygold are raiſed by ſowing the ſeeds on a moderate hot-bed the end of March. When the plants come up, they muſt be uſed as much as poſſible to the open air, and frequently watered; and as they encreaſe in height, and if the weather is quite mild, the glaſſes muſt be wholly taken off in the day-time. From this bed they may be tranſplanted to the places where they are deſigned to flower. This ſhould not be done before the plants are tolerably ſtrong; a moiſt day ſhould be choſen for the purpoſe; and if you are ſo lucky to ſucceed in this, your plants will immediately ſtrike root, and call for no trouble, except weeding, until they come to flower; though it would be proper to ſtake the ſtrong Africans, as they aſpire in height, to prevent their being broken down by the violence of the winds.

A large border of African Marygolds ſhould be planted together to make a ſhow; and in doing of this, regard ſhould be had to the placing the Pale-yellows, the Orange-coloured, the Quill-flowered ſorts, &c. in ſuch a manner as to form a proper mixture. For this purpoſe, the ſeeds of all theſe ſorts ſhould have been previouſly gathered, and kept ſeparate; for although they are only varieties of one ſpecies, yet the ſeeds for the moſt part will produce the like kinds of flowers as thoſe they were gathered from.

The French Marygold, alſo, ſhould be planted to form a large border or quarter; and if they are contiguous to the Africans, they will make an agreeable contraſt one with another.

If you chuſe to keep your ſhow of both ſorts in perfection, you muſt be careful to pull up all ſingle flowers on their firſt appearance, or you will ſoon find that your quantity of ſingle and indifferent flowers will be much ſuperior to the Full-double and valuable ſorts.

The richneſs of the colouring, as well as doubleneſs of the French Marygolds, is to be attended to; and when a ſort diſplays a more than ordinary luſtre, though it be not very double, you ſhould mark it for ſeed, but muſt ſtill keep it ſeparate from thoſe deſigned to raiſe full double flowers.

The Chili Marygold muſt be ſown early in March, on a good hot-bed; from which, after having nurſed it with all tenderneſs and care, it ſhould be removed to a ſecond, and after that to a third. With this management they may be ſometimes brought to flower ſo early as to ripen their ſeeds; but as this will be uncertain in the open air, to ſecure it more effectually, the beſt way will be to place over them a glaſs caſe, under which they will be pretty ſure to ripen their ſeeds.

Titles.

1. The French Marygold is titled, *Tagetes ſubdiviſo patulo.* Caſpar Bauhine calls it, *Tanacetum Africanum, ſive flos Africanus minor*; Dodonæus, *Flos Africanus*; Tournefort, *Tagetes Indicus minor, multiplicato flore*; and Dillenius, *Tagetes minor, flore fulvo maculato.* It is a native of Mexico. Patula.

2. African Marygold is, *Tagetes caule ſimplici erecto, pedunculis nudis unifloris.* Caſpar Bauhine calls it, *Tanacetum Africanum majus, ſimplici flore*; Cammerarius, *Caryophyllus Indicus*; John Bauhine, *Tagetes maximus rectus, flore maximo multiplicato*; and Columna, *Tagetes Mexicanus, flore fiſtuloſo.* It grows naturally in Mexico. Erecta.

3. Chili Marygold is, *Tagetes caule ſimplici recto, pedunculis ſquamoſis multifloris.* Dillenius calls it, *Tagetes multiflora, minuto flore albicante.* It grows naturally in Chili. Minuta.

Claſs and order in the Linnæan Syſtem. The characters.

Tagetes is of the claſs and order *Syngeneſia Polygamia Superflua*; and the characters are,

1. Calyx. The common calyx is ſimple, and of one leaf; it is tubulous, oblong, five-cornered, and indented at the top in five parts.

2. Corolla is compound, and radiated. The hermaphrodite florets in the diſk are numerous, tubulous, erect, longer than the calyx, and are divided at the top into five ſegments, which are hairy on the inſide.

The female flowers in the radius are tongue-ſhaped, narrow at the baſe, but broader upward; they are permanent, downy, and nearly of equal breadth and length.

3. Stamina, in the hermaphrodite flowers, are five very ſhort, capillary filaments, with a tubulous, cylindrical anthera.

4. Pistillum, in the hermaphrodite and female flowers, is an oblong germen, a filiforme ſtyle, and a bifid, reflexed ſtigma.

5. Pericarpium. There is none.

6. Semen. The ſeed is ſingle, linear, compreſſed, and crowned by five erect, pointed, unequal ariſtæ.

CHAP. CCCXXII.

TANACETUM, TANSEY.

OF this genus there is one ſhort-lived ſpecies, called Annual Tanſey.

The plant deſcribed.

The ſtalks are ſlender, ſtiff, herbaceous, hoary, two feet high, and ſend out branches from the ſides at diſtances from each other. The leaves are bipinnatifid, narrow, acute, often trifid, and when bruiſed emit an agreeable odour. The flowers come out in a corymbus from the tops of the branches; they are of a bright-yellow colour, appear in Auguſt, and in favourable ſeaſons the ſeeds ripen in the autumn.

Culture.

This plant is propagated by ſowing the ſeeds on a hot-bed in March. They muſt have much air, or they will draw weak; and little water, for over-watering will rot them in their tender ſtate: They ſhould be inured to the full air by degrees; and when all danger of froſt is over, they ſhould be ſet abroad in ſome warm, well-ſheltered place, being careful to preſerve a ball of earth to each root, that it may ſuffer as little as poſſible by removal. If dry weather ſhould happen, they muſt be regularly watered, and conſtantly kept ſhaded until they have taken root. All ſummer they muſt be kept clean from weeds; and when they come into flower, if a cold, wet ſeaſon ſhould ſet-in, a few of the beſt plants, in the warmeſt ſituation, ſhould be covered with glaſſes, to protect them from the wet, otherwiſe their ſeeds will not ripen. As ſoon as all danger of ſuffering from injuries is over, the glaſſes ſhould be taken off, and the ſeeds will ripen regularly in the autumn for a ſucceſſion.

Titles.

Annuum.

This ſpecies is titled, *Tanacetum foliis bipinnatifidis linearibus acutis, corymbis tomentoſis.* Vaillant calls it, *Tanacetum annuum villoſum, abſinthii Auſtriaci folio*; Tournefort, *Abſinthium corymbiferum annuum*; Caſpar Bauhine, *Elichryſum foliis abrotani*; and Cluſius, *Elichryſum.* In Miller's Dictionary it is termed, *Santolina corymbis ſimplicibus faſtigiatis, foliis linearibus confertis.* It is a native of Spain.

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CHAP. CCCXXIII.

TEUCRIUM, GERMANDER.

Species.

THE Annuals of this genus are,

1. Common Ground Pine.
2. Jagged-leaved Ground Pine.
3. Portugal Germander.
4. Prickly Germander.

Deſcription of Common Ground Pine.

1. Common Ground Pine. The root is ligneous, tough, and ſends forth a few ſlender fibres, which ſtrike deep into the ground. The ſtalks are weak, ſlender, hairy, and lie on the ground. The leaves are narrow, hairy, cut at the extremity into three undivided ſegments, and grow for the moſt part oppoſite by pairs at the joints. The flowers come out, two or three together, from the wings of the leaves, ſitting cloſe, having no footſtalks; they are of a bright-yellow colour, appear in July, and the ſeeds ripen in September.

The whole plant emits a ſtrong, reſinous odour when bruiſed.

Varieties.

There is a variety of this ſpecies with pale-yellow, and another with white flowers.

Its virtues

This ſpecies is an excellent vulnerary, a good diuretic, cureth the jaundice, aſſiſts women in their complaints, and is ſerviceable for the cure of the gout, rheumatiſm, &c.

Jagged-leaved Ground Pine,

2. Jagged-leaved Ground Pine. The ſtalks are four-cornered, ſlender, jointed, very hairy, and about a foot long. The leaves are hairy, grow oppoſite to each other at the joints, and are deeply cut into ſeveral ſegments, each of which is again cut into three narrow points. The flowers grow, three together, on each ſide the ſtalks at the joints, ſtanding on ſhort footſtalks; they are of a white colour, appear in June and July, and the ſeeds ripen in Auguſt and September.

Portugal,

3. Portugal Germander. The ſtalks are ſlender, jointed, and trailing. The leaves are narrow, grow oppoſite at the joints; ſome of them are cut into three, and others into five ſegments. The flowers come out ſingly from the wings of the leaves on each ſide the ſtalks, almoſt their whole length, growing on ſhort footſtalks; they appear in July, and the ſeeds ripen in September.

and Prickly Germander deſcribed.

4. Prickly Germander. The ſtalks are about a foot and a half long, and armed with thorns. The leaves are cut into many ſegments, grow oppoſite to each other, and are poſſeſſed of a very agreeable odour. The flowers come out, two together, on ſhort footſtalks from the upper parts of the plant; they appear in June and July, and the ſeeds ripen in September.

Culture.

All theſe ſorts are eaſily propagated by ſowing the ſeeds, (the beſt time for which is the autumn) ſoon after they are ripe, and the plants will then flower early the ſummer following. When they come

come up, they will require no trouble, except thinning them where they are too cloſe, keeping them clean from weeds, and after they have once flowered and ſhed their ſeeds, plants enough for a ſucceſſion will ſpontaneouſly ariſe without farther trouble.

Titles. Chamæpitys. 1. Common Ground Pine is titled, *Teucrium foliis trifidis linearibus integerrimis, floribus ſeſſilibus lateralibus ſolitariis, caule diffuſo.* In the *Hortus Cliffort.* it is termed, *Teucrium foliis ſimpliciter trifidis.* Caſpar Bauhine calls it, *Chamæpitys lutea vulgaris, ſ. folio trifido*; Dodonæus, *Chamæpitys prima*; Gerard, *Chamæpitys mas*; and Parkinſon, *Chamæpitys vulgaris.* It grows naturally in fields in England, Italy, France, Helvetia, and Hungary.

Botrys. 2. Jagged-leaved Ground Pine is, *Teucrium foliis multifidis, pedunculis axillaribus ternis.* In the *Hortus Cliffort.* it is termed, *Teucrium foliis aliquoties trifidis, floribus verticillatis.* Caſpar Bauhine calls it, *Botrys chamædryoides*; and Dodonæus, *Chamæpitys altera.* It grows naturally in the corn-fields of France, Italy, and Germany.

3. Portugal Germander is, *Teucrium foliis trifidis, quinquefidiſque filiformibus, floribus pedunculatis ſolitariis oppoſitis, caule decumbente.* Tournefort calls it, *Teucrium ſupinum annuum Luſitanicum, foliis laciniatis*; and Moriſon, *Chamædrys annua multiflora tenuifolia Hiſpanica Tournefortii.* It grows naturally in Spain and Portugal. Niſsolianum.

4. Prickly Germander is, *Teucrium ſpinoſum, calycibus labio ſuperiore ovato, corollis reſupinatis, pedunculis geminis.* Caſpar Bauhine calls it, *Chamædrys ſpinoſa*; and Griſl. *Chamædrys multifida ſpinoſa odorata.* It grows naturally in Portugal. Spinoſum.

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C H A P. CCCXXIV.

THELIGONUM, DOG's CABBAGE.

THERE is only one ſpecies of this genus, commonly called Dog's Cabbage.

The plant deſcribed. The ſtalks are round, ſlender, jointed, trailing, and about a foot long. The leaves are oval, obtuſe pointed, and grow on membranaceous footſtalks at the joints. The flowers come out in cluſters from the joints of the ſtalks, ſitting cloſe; they are ſmall, of a greeniſh-white colour, appear in July and Auguſt, and the ſeeds ripen in the autumn.

Method of propagation. This plant is propagated by ſowing the ſeeds in the autumn, ſoon after they are ripe, or the ſpring following, in the places where they are to remain; and when they come up, they will require no trouble, except thinning them where they are too cloſe, and keeping them clean from weeds.

Titles. Cynocrambe. This being the only ſpecies of the genus, it is named ſimply, *Theligonum.* Plukenet calls it, *Parietariæ affinis cynocrambe dicta, floribus muſcoſis*; Caſpar Bauhine, *Cynocrambe Dioſcoridis*; John Bauhine, *Alſina fœtida fabio columnæ Dioſcoridis*; Barrelier, *Cynocrambe alſines foliis*; and Columna, *Alſines facie planta nova.* It grows naturally in the ſhady parts of Italy, Sicily, and the South of France.

Claſs and order in the Linnæan Syſtem. The characters. *Theligonum* is of the claſs and order *Monoecia Polyandria*; and the characters are,

I. Male Flowers.

1. Calyx is a monophyllous, turbinated perianthium, cut into two revoluted ſegments.
2. Corolla. There is none.
3. Stamina are many erect filaments the length of the corolla, having ſimple antheræ.

II. Female Flowers.

1. Calyx is a ſmall, erect, monophyllous, bifid, permanent perianthium.
2. Corolla. There is none.
3. Piſtillum conſiſts of a globular germen, a long, filiforme ſtyle, and a ſimple ſtigma.
4. Pericarpium is a coriaceous, globular capſule, containing one cell.
5. Semen. The ſeed is ſingle, and globular.

CHAP. CCCXXV.

THLASPI, MITHRIDATE MUSTARD, or TREACLE MUSTARD.

Species.

OF this genus are,
1. Treacle Muſtard, or Penny Creſs.
2. Mithridate Muſtard, or Baſtard Creſs.
3. Shepherd's Purſe.
4. Perfoliate Treacle Muſtard.
5. Garlick Treacle Muſtard.
6. Foreign Treacle Muſtard.
7. Rock Treacle Muſtard.

Treacle Muſtard deſcribed.

1. Treacle Muſtard, or Penny Creſs. The ſtalk is ſlender, ſmooth, channelled, and about a foot high. The leaves are oblong, ſmooth, indented, and ſit cloſe to the ſtalks. The flowers are produced in looſe ſpikes from the tops of the ſtalks, are ſmall, and of a white colour; they appear in June and July, and the ſeeds ripen in Auguſt.

Properties of the ſeeds.

The ſeeds of this ſpecies are hot, biting, have the ſame quality with thoſe of Muſtard, and are uſed in medicine for the ſame purpoſes.

Mithridate deſcribed.

2. Mithridate Muſtard, or Baſtard Creſs. The ſtalks are ſlender, branching near the top, and about a foot high. The radical leaves are long, indented, and hoary on both ſides; the upper ones are ſagittated, indented, hoary, grow alternately, and embrace the ſtalk with their baſe. The flowers are produced in ſhort ſpikes from the ends of the branches; they are ſmall, of a white colour, appear in June and July, and the ſeeds ripen in Auguſt.

Uſes of the ſeeds.

The ſeeds of this ſpecies are promiſcuouſly uſed for the ſame purpoſes as the former, and are frequently an ingredient in the compoſition of Venice Treacle.

Shepherd's Purſe deſcribed.

3. Shepherd's Purſe. The ſtalks are weak, ſlender, branching, and about a foot and a half high. The radical leaves are pinnatifid, long, and ſpread on the ground; the upper ones are almoſt entire, and grow ſingly at the joints. The flowers are produced in looſe ſpikes from the ends of the branches, are ſmall, and of a white colour; they appear in March, April, May, and in ſhort all ſummer; and the ſeeds ripen ſoon after the flowers are fallen.

Variety.

There is a variety of it with undivided leaves.

Its virtue.

This is the Common Shepherd's Purſe, which grows almoſt every-where. It is a mild aſtringent, and as ſuch recommended in medicine.

Deſcription of Perfoliate,

4. Perfoliate Treacle Muſtard. The radical leaves are oval, of a bluiſh-green colour, and ſpread on the ground; but thoſe on the ſtalks are heart-ſhaped, oblong, ſmooth, and embrace the ſtalks with their baſe. The ſtalks are ſlender, divide into a few branches, and grow to be eight or nine inches high. The flowers are produced from the tops of the ſtalks in ſhort, looſe ſpikes; they are ſmall, of a white colour, appear in June and July, and the ſeeds ripen in Auguſt.

Garlick,

5. Garlick Treacle Muſtard. The ſtalks divide into a few branches near the top, and grow to be ſix or eight inches high. The leaves are oblong, ſmooth, obtuſe, ſit cloſe to the ſtalks, and, when bruiſed, emit a ſtrong ſmell of Garlick. The flowers come out in ſhort, looſe ſpikes from the ends of the branches; they are ſmall, of a white colour, appear in June, and the ſeeds ripen in Auguſt.

Foreign,

6. Foreign Treacle Muſtard. The ſtalks are ſlender, branching a little, and eight or ten inches high. The leaves are ſpear-ſhaped, entire, of a greyiſh colour, ſit cloſe, and grow oppoſite to each other on the ſtalks. The flowers come out in looſe ſpikes from the tops of the ſtalks, are ſmall, of a purple colour, appear in June and July, and the ſeeds ripen in Auguſt.

and Rock Treacle Muſtard.

7. Rock Treacle Muſtard. The lower leaves are roundiſh, fleſhy, and entire; but thoſe on the ſtalks are ſpear-ſhaped, and narrow. The ſtalks divide into a few branches, and grow only to about ſix or eight inches high. The flowers come out in looſe ſpikes from the ends of the branches, and are of an elegant-red colour, marked with ſome deep-bloody ſtripes; they appear in June, and the ſeeds ripen in Auguſt.

Culture.

The laſt two ſpecies are Biennials; the others are Annuals, which grow wild in moſt parts of England, and are rarely cultivated. They may be propagated, however, by ſowing the ſeeds as ſoon as they are ripe, and they will flower early the ſummer following. If the ſeeds of the laſt two ſpecies, alſo, are ſown as ſoon as they are ripe, the ſtrongeſt plants will flower the ſummer following; whereas, if the ſeeds are kept until the ſpring, the ſtalks will not advance for flowering before the ſpring ſucceeding.

Titles.

1. Treacle Muſtard, or Penny Creſs, is titled, *Thlaſpi ſiliculis orbiculatis, foliis oblongis dentatis glabris.* Caſpar Bauhine calls it, *Thlaſpi arvenſe, ſiliquis latis*; Dodonæus, *Thlaſpi latius*; Gerard, *Thlaſpi Dioſcoridis*; and Parkinſon, *Thlaſpi drabæ folio.* It grows naturally in cultivated fields in England and moſt countries of Europe. Arvense.

2. Mithridate Muſtard, or Baſtard Creſs, is, *Thlaſpi ſiliculis ſubrotundis, foliis ſagittatis dentatis incanis.* Caſpar Bauhine calls it, *Thlaſpi arvenſe, vaccariæ incano folio, majus*; John Bauhine, *Thlaſpi vulgatius*; Fuchſius, *Thlaſpi latifolium*; Gerard, *Thlaſpi vulgatiſſimum*; and Parkinſon, *Thlaſpi Mithridaticum, ſ. vulgatiſſimum, vaccariæ folio.* It grows naturally in ſandy, chalky places in England, and moſt countries of Europe. Campestre.

3. Shepherd's Purſe is, *Thlaſpi ſiliculis obcordatis, foliis radicalibus pinnatifidis.* Caſpar Bauhine calls it, *Burſa paſtoris major, folio ſinuato*; alſo, *Burſa paſtoris media*; John Bauhine, *Burſa paſtoris*; and Parkinſon, *Burſa paſtoris vulgaris.* It grows every where about towns and villages, among rubbiſh, by way-ſides, on old walls, &c. in England and moſt countries of Europe. Bursa Pastoris.

4. Perfoliate Treacle Muſtard is, *Thlaſpi ſiliculis obcordatis, foliis caulinis cordatis glabris ſubdentatis, petalis longitudine calycis, caule ramoſo.* Perfoliatum.

Guettard calls it, *Thlaſpi foliis radicalibus ovatis, caulinis amplexicaulibus lanceolatis*; Caſpar Bauhine, *Thlaſpi arvenſe perfoliatum minus*; Gerard, *Thlaſpi minus Cluſii*; and Tabernæmontanus, *Thlaſpi oleraceum.* It grows naturally in mountainous places in England, Helvetia, Gaul, and Germany.

Alliaceum. 5. Garlick Treacle Muſtard is, *Thlaſpi ſiliculis ſubovatis ventricoſis, foliis oblongis obtuſis dentatis glabris.* Moriſon calls it, *Thlaſpi allium redolens*; and John Bauhine, *Scorodo-Thlaſpi Ulyſſis Aldrovandi.* It grows naturally in moſt of the ſouthern countries of Europe.

6. Foreign Treacle Muſtard is, *Thlaſpi ſiliculis ſuborbiculatis, foliis lanceolatis integerrimis.* John Bauhine calls it, *Thlaſpi capſulâ cordatâ integerrimâ.* It is ſaid to grow naturally in Sicily. Peregrinum.

7. Rock Treacle Muſtard is, *Thlaſpi ſiliculis ſubrotundis, foliis lanceolato-linearibus carnoſis obtuſis.* Haller calls it, *Lepidium foliis pulpoſis ſubrotundis, antheris lateralibus*; Caſpar Bauhine, *Thlaſpi parvum ſaxatile, flore rubente*; and Columna, *Lithonthlaſpi quartum, carnoſo rotundo folio.* It grows naturally out of the rocks of Italy, Provence, and Narbonne. Saxatile.

CHAP CCCXXVI.

THYMUS, THYME.

THE Annuals of this genus are,

1. Common Engliſh Wild Baſil.
2. Alpine Wild Baſil.

Species. Deſcription of Common Engliſh

1. Common Engliſh Wild Baſil is often called Stone Baſil, as it grows naturally in ſtoney, gravelly, and chalky ſoils in England. It is ſeldom admitted into gardens. The ſtalks are erect, ſquare, hairy, and divide into a few branches. The leaves are ſmall, oval, ſharp-pointed, ſerrated, and hairy. The flowers are produced in whorls round the ſtalks, each ſtanding on its ſeparate footſtalk; they are ſmall, of a purple colour, come out in June and July, and ripen their ſeeds in Auguſt.

and Alpine Wild Baſil.

2. Alpine Wild Baſil. The ſtalks are ſlender, and branch a little. The leaves are broader than thoſe of the former ſpecies; their edges are ſlightly ſerrated, and they are concave and obtuſe. The flowers are large, and each has its ſeparate footſtalk; they come out in June and July, and ripen their ſeeds in the autumn.

Culture.

Theſe plants are eaſily raiſed by ſowing of the ſeeds ſoon after they are ripe, or in the ſpring; and if they have an hungry, gravelly ſoil, it will be more ſuitable to their natures. You need not be at the trouble of ſowing them more than once; for afterwards they will come up as weeds, and ſhould every year be hoed down, except a few plants for variety and obſervation.

Titles. Acinos.

1. Common Engliſh Field Baſil is titled, *Thymus verticillis ſexfloris, caulibus erectis ſubramoſis, foliis acutis ſerratis.* In the *Hortus Cliffort.* it is termed, *Thymus caulibus vix ramoſis, foliis ovatis acutis, pedunculis plurimis unifloris.* Caſpar Bauhine calls it, *Clinopodium arvenſe, ocymi facie*; and Lobel, *Clinopodium vulgare.* It grows naturally in England and moſt parts of Europe.

Alpinus

2. Alpine Wild Baſil is, *Thymus verticillis ſexfloris, foliis obtuſiuſculis concavis ſubſerratis.* Haller calls it, *Clinopodium verticillis paucifloris in ſpicam congeſtis*; Caſpar Bauhine, *Clinopodium montanum*; and John Bauhine, *Acini pulchra ſpecies.* It grows naturally on the Helvetian and Auſtrian mountains; alſo, on the Alpine parts near Montpelier in France.

CHAP. CCCXXVII.

TORDYLIUM, HART-WORT of CRETE.

Species.

THE ſpecies of this genus are,

1. Syrian Hart-Wort.
2. Small Hart-Wort of Crete.
3. Hart-Wort of Apulia.
4. Great Hart-Wort of Crete.
5. Broad-leaved Hedge Parſley.
6. Red-flowered Baſtard Parſley.
7. Knotted Parſley.

Syrian Hart-wort.

1. Syrian Hart-Wort. The ſtalks are upright, ſtriated, branching a little, and about a foot high. The lower leaves are compoſed of about two or three pair of oval, hairy, crenated folioles, and terminated by an odd one. The flowers are produced in umbels at the tops of the ſtalks, having very large involucrums; they are of a white colour, appear in July and Auguſt, and the ſeeds ripen in the autumn.

and Small-Hart-wort of Crete deſcribed.

2. Small Hart-Wort of Crete. The ſtalks are ſlender, divide into two or three branches, and are ſix or eight inches high. The lower

leaves are compoſed of two or three pair of oval, jagged folioles, that are terminated by an odd one. The flowers are produced in umbels at the ends of the branches, are of a white colour, appear in June and July, and the ſeeds ripen in Auguſt.

Hart-Wort of Apulia,

3. Hart-Wort of Apulia. The ſtalk is rough, hairy, branching from the very bottom, and about a foot high. The leaves are compoſed of three pair of roundiſh, hairy, jagged folioles, terminated by an odd one. The flowers are produced in umbels at the tops of the ſtalks on long, ſlender footſtalks, and ſpread themſelves to a conſiderable diſtance from each other; they are of a white colour, appear in June and July, and the ſeeds ripen in Auguſt.

and Great Hart-Wort of Crete deſcribed.

4. Great Hart-Wort of Crete. The ſtalk is upright, tolerably firm, ſends out a few branches from the ſides, and grows to be three or four feet high. The lower leaves are compoſed of about three or four pair of ſpear-ſhaped, rough, hairy, indented folioles, terminated by an odd one. The flowers are produced in cloſe umbels at the ends of the branches; they appear in June and July, and the ſeeds ripen in Auguſt and September.

Deſcription of Broad-leaved Hedge,

5. Broad-leaved Hedge Parſley. The ſtalk is upright, branching a little from the bottom, and two or three feet high. The lower leaves are compoſed of about three or four pair of ſpear-ſhaped, broad, hairy, jagged folioles, terminated by an odd one. The flowers are produced in cloſe, naked umbels at the tops of the ſtalks; they are of a reddiſh-purple colour, appear in July and Auguſt, and the ſeeds ripen in September.

Red-flowered Baſtard,

5. Red-flowered Baſtard Parſley. The ſtalks are ſlender, and two or three feet high. The lower leaves are compoſed of three or four pair of oval, ſpear-ſhaped, pinnatifid, hairy folioles, terminated by an odd one. The flowers are produced in umbels on the tops of the ſtalks, are ſmall, of a pale-red colour, appear in June and July, and the ſeeds ripen in Auguſt and September.

and Knotted Parſley,

7. Knotted Parſley. The ſtalks are ſlender, branching, rough, creſted, and uſually lie on the ground. The leaves are compoſed of four or five pair of ſmall, rough, jagged folioles, terminated by an odd one. The flowers are produced in ſimple umbels at the joints, to which they ſit cloſe, having no footſtalks; they are ſmall, of a white colour, appear in June and July, and the ſeeds ripen in Auguſt and September.

Culture.

All theſe ſpecies are propagated by ſowing the ſeeds in the autumn, ſoon after they are ripe, in the places where they are deſigned to remain. When they come up, they will require no trouble, except thinning them where they are too cloſe, and keeping them clean from weeds; and after they have once flowered, and the ſeeds are ſcattered, plants enough for a ſucceſſion will ſpontaneouſly ariſe.

Titles.

Syriacum

1. The firſt ſpecies is titled, *Tordylium involucris umbellâ longioribus*. Moriſon calls it, *Tordylium Syriacum humilius*; *ſemine granulato majore*; and Caſpar Bauhine, *Gingidium foliis paſtinacæ latifoliæ*. It grows naturally in Syria.

Officinale.

2. The ſecond ſpecies is, *Tordylium involucris partialibus longitudine florum, foliolis ovatis laciniatis*. Caſpar Bauhine calls it, *Seſeli Creticum minus*; and Dodonæus, *Seſeli Creticum*. It grows naturally in Italy, France, and Sicily.

Apulum.

3. The third ſpecies is, *Tordylium umbellulis remotis, foliis pinnatis, pinnis ſubrotundis laciniatis*. Columna calls it, *Tordylium Apulum minimum*; and Caſpar Bauhine, *Seſeli Creticum minimum*. It grows naturally in Italy and Apulia.

Maxi=
=mum.

4. The fourth ſpecies is, *Tordylium umbellis confertis radiatis, foliolis lanceolatis inciſo-ſerratis*: Rivinus calls it, ſimply, *Tordylium*; Cluſius, *Caucalis major*; and Caſpar Bauhine, *Caucalis maxima, ſphondylii aculeato ſemine*; alſo, *Seſeli Creticum majus*. It grows naturally in hedges and by way-ſides in Italy.

Latifoli=
=um.

5. The fifth ſpecies is, *Tordylium umbellis confertis nudiuſculis, foliis pinnatis, foliolis lanceolatis inciſo-ſerratis*. In the *Hortus Cliffort.* it is termed, *Caucalis umbellâ univerſali trifida, partialibus pentaſpermis, foliis pinnatis ſerratis*. Caſpar Bauhine calls it, *Caucalis arvenſis echinata latifolia*; and John Bauhine, *Lappula Canaria latifolia*. It grows naturally among the corn in England, Gaul, Italy, and in the Eaſt.

Anthris=
=cus.

6. The ſixth ſpecies is, *Tordylium umbellis confertis, foliolis ovato-lanceolatis pinnatifidis*. Guettard calls it, *Caucalis umbellâ confertâ, foliolis ovato-lanceolatis pinnatifidis*; Caſpar Bauhine, *Caucalis ſemine aſpero, floſculis rubentibus*; and Moriſon, *Caucalis minor, flore rubente*. It grows naturally on the borders of fields in moſt of the ſouthern countries of Europe.

Nodosum.

7. The ſeventh ſpecies is, *Tordylium umbellis ſimplicibus ſeſſilibus, ſeminibus exterioribus hiſpidis*. In the *Hortus Cliffort.* it is termed, *Caucalis umbellis ſeſſilibus ſimplicibus*. Caſpar Bauhine calls it, *Caucalis nodoſa, echinato ſemine*. It grows naturally on the borders of fields, and by way-ſides, in England, Gaul, and Italy.

Claſs and order in the Linnæan Syſtem. The characters.

Tordylium is of the claſs and order *Pentandria Digynia*; and the characters are,

1. Calyx. The general umbel is unequal, and multiplex. The partial is unequal, multiple, very ſhort, and plane. The general involucrum is compoſed of ſlender, undivided leaves, which are for the moſt part the length of the umbel: The partial is dimidiated, and longer than the umbellula. The perianthium is indented in five parts.

2. Corolla. The general flower is difformed, and radiated. The florets in the diſk have each five inflexed, heart-ſhaped, equal petals. Thoſe of the radius are ſimilar; but the outward petal is large, and divided into two parts.

3. Stamina, in all of them, are five capillary filaments, with ſimple antheræ.

4. Pistillum, in all, conſiſts of a roundiſh germen ſituated below the flower, and two ſmall ſtyles, with ſimple ſtigmas.

5. Pericarpium is a roundiſh, compreſſed, crenulated fruit, divided into two parts.

6. Semina. The ſeeds are two, roundiſh, nearly plane, and have an elevated, notched border.

C H A P. CCCXXVIII.

TRAGOPOGON, GOAT'S BEARD.

OF this genus we find the following ſpecies proper for this place, viz.

Species.

1. Yellow Goat's Beard.
2. Oriental Goat's Beard.
3. Purple Goat's Beard, or Salſafy.
4. Hairy Spaniſh Goat's Beard.
5. Saffron-leaved Goat's Beard.
6. Goat's Beard of Crete.

The firſt five of theſe ſpecies are Biennials, the ſixth is an Annual.

Deſcription of Yellow,

1. Yellow Goat's Beard. Of this ſpecies there are two varieties; one of which grows to near a yard in height, the other to not much more than a foot. The leaves are very long, narrow, ſharp-pointed, and embrace the ſtalks with their baſe. The ſtalks are terminated each by one flower, which is large, of the diſcous kind, and of a yellow colour: It will be in blow in June and July, and ripen the ſeeds in September.

Oriental,

2. Oriental Goat's Beard. This ſpecies will grow to two or three feet high. The leaves are narrow, entire, and a little waved. The flowers are produced in the ſame manner as the former ſort, though they are larger; their colour is yellow, and they will be in blow in June or July, and ripen their ſeeds in the autumn.

Purple,

3. Purple Goat's Beard, or Salſafy. This is propagated in the kitchen-garden for uſe, the very roots and young ſhoots in the ſpring being thought by many to be excellent. The ſtalks are upright, hollow, ſmooth, round, of a whitiſh-green colour, and will grow to about two feet high. The leaves are long, narrow, ſharp-pointed, and embrace the ſtalks with their baſe: They very much reſemble thoſe of the Common Leek, which occaſions this ſpecies being called by ſome the Leek-leaved Goat's Beard. The flowers are large, and of a blue or purple colour. The footſtalks are thicker under the flower than lower, and the rays of the flowers are ſhorter than the cups. The flowers will be in blow about July, and ripen their ſeeds in the autumn.

Hairy Spaniſh,

4. Hairy Spaniſh Goat's Beard. This ſpecies will grow to about two feet high, and the ſtalks are cloſely ſet with white hairs. The leaves are very hairy, whitiſh, long, and pointed. The flowers are of a pale-yellow colour, and grow from the ſides of the branches on cylindrical footſtalks; they will be in blow in June or July, and the ſeeds will be ripe in September.

and Saffron-leaved Goat's Beard.

5. Saffron-leaved Goat's Beard. This ſpecies will grow to about the height of the former. The leaves are long, narrow, entire, and much reſemble thoſe of the Crocus or Saffron. The flowers are large, of a deep-purple colour, will be in blow in June or July, and ripen their ſeeds in Auguſt or September.

Goat's Beard of Crete deſcribed.

6. Goat's Beard of Crete. This ſpecies is frequently called the Sowthiſtle of Crete, from the reſemblance the whole plant bears to the Sowthiſtle. It grows to about the height of that plant, and its leaves are ſmooth, and ſinuated in the like manner. The flowers grow from the tops of the ſtalks in prickly cups; and when the ſeeds are ripe, they are waſted about by the wind to a conſiderable diſtance.

Culture.

The ſeeds of all theſe ſpecies ſhould be ſown in the ſpring; and after the plants come up, they will require no trouble, except keeping them clean from weeds, and thinning them where they are too cloſe. The laſt ſpecies will flower in the autumn, and ſcatter the ſeeds, which will come up, and continue the ſucceſſion without further trouble. Others will be in blow the ſummer following.

Moſt of theſe plants cloſe their flowers very early in the day, particularly the firſt and the third ſpecies, which are generally ſhut by noon. Hence the names Twelve o'Clock Flowers, Sleep at Noon, or Go-to-bed at Noon, have been given them by the common people.

Titles.

1. Yellow Goat's-Beard is titled, *Tragopogon calycibus corollæ radium æquantibus, foliis integris ſtrictis.* In the *Hortus Cliffort.* it is termed, *Tragopogon calycibus florem ſuperantibus.* Caſpar Bauhine calls it, *Tragopogon pratenſe luteum majus*; Gerard, *Tragopogon luteum.* It grows naturally in meadows and paſtures in England and moſt parts of Europe. Pratense.

2. Oriental Goat's Beard is, *Tragopogon calycibus corollæ radio brevioribus, foliis integris ſubundulatis.* Tournefort calls it, *Tragopogon Orientale anguſtifolium, flore maximo luteo*; Cammerarius, *Barba hirci.* It is a native of the Eaſt. Orientale.

3. Purple Goat's Beard is, *Tragopogon calycibus corollæ radio ſeſquilongioribus, foliis integris ſtrictis, pedunculis ſupernè incraſſatis.* Caſpar Bauhine calls it, *Tragopogon purpureo-cæruleum, porri folio quod Arteſi vulgò*; Dalechamp, *Tragopogon alterum, ſive barba hirci*; and Gerard, *Tragopogon purpureum.* It grows in the meadows and paſtures of England. Porrifolium.

4. Hairy Spaniſh Goat's Beard is, *Tragopogon calycibus corollæ radio ſeſquilongioribus, caule foliiſque villoſis.* It grows naturally in Spain. Villosum.

5. Saffron-leaved Goat's Beard is, *Tragopogon calycibus corollæ radio longioribus, foliis integris, radicalibus pedunculiſque baſi villoſis.* Caſpar Bauhine calls it, *Tragopogon purpureo-cæruleum crocifolium*; Columna, *Tragopogon croci folio montanum, flore nigro-purpureo.* It grows naturally in Italy, and about Montpelier in France. Crocifolium.

6. Goat's Beard of Crete is, *Tragopogon calycibus monophyllis corollâ brevioribus aculeatis, foliis runcinatis denticulatis.* In the *Hortus Upſal.* it is termed, *Picris calycibus ſimplicibus aculeatis, foliis inermibus haſtato-ſinuatis.* Caſpar Bauhine calls it, *Sonchus aſper laciniatus Creticus.* It grows naturally in Crete, and about Montpelier in France. Picroides.

CHAP. CCCXXIX.

TRAPA, WATER CALTROPS.

The plant deſcribed.

THE Water Caltrops is the only ſpecies of this genus. The root is long, and ſends forth ſeveral tufts of ſlender fibres from the ſides, ſome of which ſtrike into the mud, whilſt others are looſe and ſwimming in the water. The leaves are roundiſh, oval, oblong, ſmooth on their upper ſide, rough underneath, and grow on long, hollow, fungous footſtalks. Among theſe leaves the flowers ariſe on their own ſeparate footſtalks; they are ſmall, of a white colour, appear in July and Auguſt, and in the ſouth of Europe are ſucceeded by a large nut containing an eſculent, and to many a very agreeable, kernel. It grows naturally in ditches and ſtanding-waters in many countries of Europe, and is not cultivated.

Culture.

This being the only ſpecies of the genus, it is named, ſimply, *Trapa*. In the *Hortus Cliffort.* it is termed, *Trapa petiolis foliorum natantium ventricoſis*. Caſpar Bauhine calls it, *Tribulus aquaticus*. It is not a native of England, but is found in moſt of the ſouthern countries of Europe, and in Aſia.

Natans.

Claſs and order in the Linnæan Syſtem.

Trapa is of the claſs and order *Tetrandria Monogynia*; and the characters are,

The characters.

1. Calyx is a monophyllous, permanent perianthium, divided into five acute parts.
2. Corolla is four oboval petals larger than the calyx.
3. Stamina are four filaments the length of the calyx, with ſimple antheræ.
3. Pistillum conſiſts of an oval germen, a ſimple ſtyle the length of the calyx, and a capitated, emarginated ſtigma.
4. Pericarpium. There is none.
5 Semen is an oval, oblong nut, armed with four ſpines, which before were the leaves of the calyx, and containing one cell.

CHAP. CCCXXX.

TRIBULUS, LAND CALTROPS.

Species.

OF this genus are,

1. European Land Caltrops.
2. Jamaica Caltrops.
3. Ceylon Caltrops.
4. American Land Caltrops.

Deſcription of European Land,

1. European Land Caltrops. The root is long, ſlender, and hung with many fibres. The ſtalks are ſlender, round, ſtriated, jointed, hairy, a foot and a half long, and lie on the ground. The leaves are compoſed of ſix pair of equal, narrow, hairy folioles; and the lower ones grow alternately, but the upper ones are placed oppoſite to each other. The flowers come out from the wings of the leaves on long footſtalks, are large, of a yellow colour, appear in June and July, and the ſeeds ripen in September.

Jamaica,

2. Jamaica Caltrops. The ſtalks are thick, channelled, compreſſed, two feet long, and lie on the ground. The leaves are compoſed of about four pair of folioles; theſe are ſmooth, ſit cloſe, and the outer ones are the largeſt. The flowers come out from the wings of the leaves, are large, of a yellow colour, and very agreeably ſcented; they appear in July and Auguſt, and are ſucceeded by large prickly nuts, which by good management may be brought to ripen in the autumn.

Ceylon,

3. Ceylon Caltrops. The ſtalks are ſlender, jointed, hairy, and trailing. The leaves are compoſed of five pair of nearly equal folioles. The flowers come out from the wings of the leaves, are of a yellow colour, appear in Auguſt, and the ſeeds ripen in the autumn.

and American Land Caltrops.

4. American Land Caltrops. The root is ligneous. The ſtalks are numerous, jointed, hairy, trailing, and about two feet long. The leaves are compoſed of about eight pair of nearly equal, oblong folioles. The flowers come out ſingly on hairy footſtalks from the wings of the leaves; they are large, of a yellow colour, appear in Auguſt, and the ſeeds ripen in the autumn.

The firſt ſpecies is a hardy Annual, and is raiſed by ſowing the ſeeds in the autumn, ſoon after they are ripe; and when the plants come up, they will require no trouble, except thinning them where they are too cloſe, and keeping them clean from weeds. After they have flowered, and the ſeeds are ſcattered, plants enough for a ſucceſſion will ſpontaneouſly ariſe.

Method of propagation.

The other ſpecies are very tender plants, and are raiſed by ſowing the ſeeds on a good hotbed early in the ſpring. When the plants are fit to remove, they muſt be ſeparately potted, and the pots plunged up to the rims in a good barkbed, where they muſt remain, with all the care and good nurſing neceſſary for tender plants; and by this management they will flower, and perfect their ſeeds. If there is the conveniency of a ſtove, the two laſt ſpecies may be ſown later in the ſpring, have leſs forcing in the ſummer, and early in the autumn be taken into the ſtove: They will then flower earlier and ſtronger the ſummer following, and with greater certainty perfect their ſeeds.

Titles.

Terres-tris.

1. The firſt ſpecies is titled, *Tribulus foliolis ſexjugatis ſubæqualibus, ſeminibus quadricornibus.* Caſpar Bauhine calls it, *Tribulus terreſtris, ciceris folio, fructu aculeato*; Lobel, *Tribulus terreſtris*; and Barrelier, *Tribulus terreſtris minor incanus Hiſpanicus.* It grows naturally in moſt of the ſouthern countries of Europe.

Maximus.

2. The ſecond ſpecies is, *Tribulus foliolis ſubquadrijugis, exterioribus majoribus.* In the *Hortus Cliffort.* it is termed, *Tribulus foliolis trium parium pinnatis.* Brown calls it, *Tribulus foliis ſenis pinnatis, extimis majoribus, floribus ſingularibus*; Sloane, *Tribulus terreſtris major, flore maximo odorato*; and Plumier, *Tribulus terreſtris fructu turbinato, foliis lanuginoſis.* It inhabits the dry, ſandy parts of Jamaica.

Lanugi-nosus.

3. The third ſpecies is, *Tribulus foliolis quinquejugatis ſubæqualibus, ſeminibus bicornibus.* In the *Flora Zeylanica* it is termed, *Tribulus foliolis quinque parium.* It grows naturally in Ceylon.

Cistoides.

4. The fourth ſpecies is, *Tribulus foliolis octojugatis ſubæqualibus.* Van Royen calls it, *Tribulus foliis octo parium pinnatis*; Herman, *Tribulus terreſtris major Curaſſavicus*; and Plukenet, *Tribulus terreſtris Americanus, argemones flore flavo.* It grows naturally in the warmer parts of America.

Claſs and order in the Linnæan Syſtem.

Tribulus is of the claſs and order *Decandria Monogynia*; and the characters are,

The characters.

1. Calyx is a perianthium ſomewhat ſhorter than the corolla, and divided into five acute parts.
2. Corolla is five oblong, obtuſe, patent petals.
3. Stamina are ten very ſmall, awl ſhaped filaments, with ſimple antheræ.
4. Pistillum conſiſts of an oblong germen the length of the ſtamina, without any ſtyle but a capitated ſtigma.
5. Pericarpium is a roundiſh, prickly fruit, compoſed of five or ten capſules joined together.
6. Semina. The ſeeds are many, turbinated, and oblong.

CHAP. CCCXXXI.

TRICHOSANTHES, SERPENT CUCUMBER.

OF this genus is found an Annual of great ſingularity in our gardens, called the Serpent Cucumber.

The plant deſcribed.

The ſtalks are tender, angular, poſſeſſed of tendrils whereby they climb up every thing that is near them, and, for want of ſuch ſupport, trail on the ground in the manner of Cucumbers. The leaves are large, angular, and rough. The flowers come out from the ſides of the branches, are white, and elegantly cut into numerous thread-like ſegments; they appear in July and Auguſt, and are ſucceeded by an oblong, taper, incurved fruit, that is near a foot in length, and contains ripe ſeeds in the autumn.

Culture.

This ſpecies is propagated by ſowing the ſeeds on a hot-bed in the ſpring; and when the plants are fit to remove, they muſt be tranſplanted to a ſecond hot-bed. Here they muſt be ſhaded and watered at firſt; afterwards, they muſt have more air, and frequent waterings; and their future management muſt be ſimilar to that of melons. They will then flower in July and Auguſt, and exhibit their large and ſingular fruit ripe and in perfection in September and October.

Titles.

Angui-na.

This plant is titled, *Trichoſanthes pomis teretibus oblongis incurvis.* Micheli calls it, *Anguina Sinenſis, flore albo elegantiſſimo, fructu oblongo intorto*; and Tilli, *Cucurbita Sinenſis, fructu longo anguino vario, flore candido capillamentis tenuiſſimis ornato.* It grows naturally in China.

Claſs and order in the Linnæan Syſtem.

Trichoſanthes is of the claſs and order *Monoecia Syngeneſia*; and the characters are,

The characters.

I. Male Flowers.

1. Calyx is a long, monophyllous, ſmooth perianthium, divided at the top into five ſmall, reflexed ſegments.
2. Corolla is plane, grows to the calyx, and is divided into five oval, ſpear-ſhaped, patent parts, which are ciliated with long, branching hairs.
3. Stamina are three very ſhort filaments on the tip of the calyx, having an erect, cylindrical anthera.
4. Pistillum. There are three very ſmall ſtyles growing to the tube of the calyx.

II. Female Flowers.

1. Calyx is a perianthium, as in the males, but deciduous, and ſituated on the germen.
2. Corolla. The ſame as the males.
3. Pistillum conſiſts of an oblong, ſlender germen, a filiforme ſtyle the length of the calyx, and three oblong, awl-ſhaped ſtigmas.
4. Pericarpium is a very long apple, containing three cells.
5. Semina. The ſeeds are many, tunicated, compreſſed, and obtuſe.

CHAP. CCCXXXII.

TRICHOSTEMA.

THERE are only two ſpecies of this genus, viz.

Species.

1. Sweet Marjoram-leaved *Trichoſtema.*
2. Wild Marjoram-leaved *Trichoſtema.*

Deſcription of Sweet

1. Sweet Marjoram-leaved *Trichoſtema.* The ſtalk is upright, tender, branching, and near a foot high. The leaves are ſhaped like thoſe of Sweet Marjoram, are ſmall, roundiſh, downy, and are placed oppoſite by pairs on the ſtalks. The flowers are produced from the wings of the branches, are ſmall, of a purple colour, appear late in Auguſt, and the ſeeds ripen in the autumn.

and Wild Marjoram-leaved Trichoſtema.

2. Wild Marjoram-leaved *Trichoſtema.* The ſtalk is angular, herbaceous, branching, and near a foot high. The leaves are like thoſe of Wild Marjoram, a little hairy, ſit cloſe, and are placed oppoſite to each other. The flowers come out from the wings of the leaves on the upper parts of the branches; they are ſmall, of a purple colour, appear in Auguſt and September, and the ſeeds ripen in the autumn.

Method of propagation.

Theſe ſpecies are raiſed by ſowing the ſeeds on a hotbed in the ſpring. When the plants come up, they muſt be thinned where they are too cloſe, and have as much air as the weather will permit, and frequent waterings. With this management they may ſtand until the middle or latter end of May; when they ſhould be taken up with a ball of earth to each root, and ſet in ſome very warm, well-ſheltered part of the garden, in order to flower, and perfect their ſeeds.

On their removal, they muſt be watered and kept ſhaded until they have taken root; and when they come into flower, if a wet, cold ſeaſon ſhould ſet-in, a ſufficient ſhare of the plants ſhould be covered with glaſſes, to protect them from too much moiſture; otherwiſe their ſeeds will not ripen to continue the ſorts.

Titles.

Dichoto=
=mum.

1. The firſt ſpecies is titled, *Trichoſtema ſtaminibus longiſſimis exſertis.* In the *Hortus Cliffort.* it is named, *Trichoſtema.* Ray calls it, *Scutellaria cærulea, marjoranæ folio, Americana*; and Petiver, *Caſſida Mariana, marjoranæ folio.* It grows naturally in Virginia and Penſylvania.

Brachia=
=tum.

The ſecond ſpecies is, *Trichoſtema ſtaminibus brevibus incluſis.* Dillenius calls it, *Teucrium Virginianum, origani folio.* It grows naturally in moſt parts of North America.

Claſs and order in the Linnæan Syſtem. The characters:

Trichoſtema is of the claſs and order *Didynamia Gymnoſpermia*; and the characters are,

1. Calyx is a monophyllous, bilabiated perianthium. The upper lip is twice as large as the under, and is cut into three acute, equal ſegments. The lower lip is divided into two acute parts.

2. Corolla is one ringent petal. The tube is very ſhort. The upper lip is falcated, and compreſſed. The under lip is divided into three ſegments, the middle one being ſmall and oblong.

3. Stamina are four very long, capillary, incurved filaments, of which two are ſomewhat ſhorter than the others, having ſimple antheræ.

4. Pistillum conſiſts of a quadrifid germen, a capillary ſtyle the length and ſituation of the filaments, and a bifid ſtigma.

5. Pericarpium. There is none. The calyx becomes large, reflexed, ſwelling, connivent, and holds the ſeeds.

6. Semina. The ſeeds are four, and roundiſh.

CHAP. CCCXXXIII.

TRIFOLIUM, TREFOIL.

Species.

OF this genus are,

1. Sweet Trefoil.
2. Spaniſh Trefoil.
3. Dwarf Trefoil.
4. Red-ſpiked Trefoil.
5. Narrow-headed Trefoil.
6. Hare's-foot Trefoil.
7. Round-headed Trefoil.
8. Oval-leaved Trefoil.
9. Knotted Trefoil.
10. Hop Trefoil.
11. Small Trefoil.
12. Melilot.

Sweet

1. Sweet Trefoil. The ſtalk is upright, thick, hollow, channelled, branching, and about a foot and a half high. The leaves are compoſed of three oval, ſerrated folioles, and they grow on longiſh footſtalks. The flowers come out in oblong ſpikes, growing on long footſtalks, which ariſe from the joints the whole length of the plants; they are of a pale-blue colour, appear in June and July, and the ſeeds ripen in September.

and Spaniſh Trefoil deſcribed.

2. Spaniſh Trefoil. The ſtalks are ſmooth, and divide into a few ſpreading branches near the baſe. The leaves are trifoliate, ſmooth, ſerrated,

rated, and grow on long footſtalks. The flowers are collected in roundiſh heads, ariſing from the ends and ſides of the branches on long footſtalks; they are very ſmall, of a white colour, appear in June and July, and the ſeeds ripen in September.

Deſcription of the Dwarf, 3. Dwarf Trefoil. The ſtalks are ſlender, ſhort, and lie on the ground. The leaves are trifoliate, and grow on ſlender footſtalks. The flowers are collected in ſmall heads, each conſiſting of about five flowers; they are of a white colour, appear in May and June, and the ſeeds ripen in July.

Red-ſpiked, 4. Red-ſpiked Trefoil. The ſtalks are upright, branching, hairy, and about two feet high. The leaves are trifoliate, being compoſed of three roundiſh folioles, which are ſerrated at the points. The flowers come out from the tops of the ſtalks in long, obtuſe, hairy ſpikes; they are of a bright-red colour, appear in July and Auguſt, and the ſeeds ripen in the autumn.

Narrow-leaved, 5. Narrow-leaved Trefoil. The ſtalk is upright, ſtiff, ſlender, and a foot and a half high. The folioles are three in number, very narrow, and hairy. The flowers are produced at the tops of the ſtalks in oblong, conical, hairy ſpikes; they are of a pale-red colour, appear in July, and the ſeeds ripen in the autumn.

Hare's Foot, 6. Hare's Foot Trefoil. The ſtalk is round, rough, hairy, branching, and lies on the ground. The folioles are very narrow, ſmall, and grow on ſhort footſtalks at the joints. The flowers come out from the ends of the branches in oval, hairy ſpikes; they are of a whitiſh colour, having a tinge of bluſh or red; they appear in July and Auguſt, and the ſeeds ripen in September.

Round-headed, 7. Round-headed Trefoil. The ſtalks are round, knotty, and lie on the ground. The leaves are trifoliate, ſmall, and of a dark-green colour. The flowers are collected in roundiſh heads, which ariſe from the joints, and ſit cloſe to the ſtalks; they are ſmall, and have ſtriated, equal, ſpreading cups; they appear in June, and the ſeeds ripen in Auguſt.

Oval-headed, 8. Oval-headed Trefoil. The ſtalks are round, ſlender, jointed, and trailing. The leaves are trifoliate, ſmall, and grow on ſlender footſtalks. The flowers come out from the ſides of the ſtalks in ſhort, rough, oval ſpikes; they are of a white colour, appear in May and June, and the ſeeds ripen in July and Auguſt.

Knotted, 9. Knotted Trefoil. The ſtalks are ſlender, weak, knotty, and trailing. The leaves are ſmall, hairy, and of a dark-green colour. The flowers come out from the ends and ſides of the branches in ſmall, oval ſpikes; they are of a pale-purple colour, appear in June, and the ſeeds ripen in Auguſt.

Hop, 10. Hop Trefoil. The ſtalks are upright, branching, and about a foot high. The folioles are three in number, oblong, heart-ſhaped, and the narroweſt parts join to form a trifoliate leaf. The flowers come out in oval, imbricated ſpikes, which are elevated from the wings of the ſtalks on long footſtalks; they are of a yellow colour, appear in June and July, and the ſeeds ripen in Auguſt.

This ſpecies is often called Hop Clover, and is uſed with other graſſes for the laying-down of land.

and Small Trefoil. 11. Small Trefoil. The ſtalks are very ſlender, and procumbent. The leaves are trifoliate, and the folioles ſtriated, and indented on the edges. The flowers are collected in ſmall, imbricated ſpikes, ariſing from the wings of the ſtalks, on very ſlender footſtalks; they appear in May and June, and the ſeeds ripen in July and Auguſt.

Melilot deſcribed. 12. Melilot. This hath a tap-root as large as a ſmall Raddiſh, of a whitiſh colour, and ſtriking deep into the ground. The ſtalks are round, very tough, ſmooth, often browniſh next the ſun, and about a yard high. The leaves are trifoliate, and the folioles are oblong, ſerrated, ſmooth, and of a deep-green colour. The flowers are produced in long, ſlender ſpikes, ariſing from the ſides of the ſtalks on long footſtalks; they are of a bright-yellow colour, appear in June and July, and the ſeeds ripen in Auguſt.

Variety. There is a variety of this ſpecies with white flowers.

This ſpecies is a Biennial, and riſes among the corn in many parts of England. Our Langton fields are full of it, and in wet ſeaſons it flouriſhes amazingly. It is much reliſhed, when green, by horſes; but when growing among Barley, it is apt to communicate its Melilot ſmell to that grain, by which it is greatly impaired in its value.

Medicinal properties. This plant is uſed in medicine, chiefly in emollient and carminative glyſters, and is frequently employed in fomentations and cataplaſms, to ſoften ſwellings of moſt ſorts.

Culture. All the ſpecies of Trefoil are propagated by ſowing the ſeeds in the autumn, ſoon after they are ripe, or the ſpring following. After they come up, they will require no trouble, except thinning them where they are too cloſe, and keeping them clean from weeds. After they have once flowered, and ſcattered their ſeeds, plants enough for a ſucceſſion will ariſe without further trouble.

Titles. 1. Sweet Trefoil is titled, *Trifolium ſpicis oblongis; leguminibus ſeminudis mucronatis, caule erecto.* Caſpar Bauhine calls it, *Lotus hortenſis odorata*; and Cammerarius, *Lotus ſylveſtris.* It grows naturally in Bohemia and Lybia. Caru=lea

2. Spaniſh Trefoil is, *Trifolium capitulis ſubrotundis leguminibus diſpermis, caule patulo, foliis ſerrulatis, ſtipulis rhombeis.* Micheli calls it, *Trifolium pratenſe annuum minimum, foliis longis anguſtis venoſis tenuiſſimè ſerratis, floribus albis congeſtis, ſiliquis minoribus diſpermis.* It grows naturally in the meadows and paſtures of Spain and Italy. Stric=tum..

3. Dwarf Trefoil is, *Trifolium capitulis villoſis quinquefloris, involucro centrali reflexo rigido fructum obvolente.* Rivinus calls it, *Trifolium ſubterraneum*; Ray, *Trifolium pumilum ſupinum, floſculis longis albis*; and Dodart, *Trifolium Bleſenſe.* It grows naturally in ſterile paſtures in ſome parts of England; alſo in Gaul and Italy. Subter=raneum.

4. Red Spiked Trefoil is, *Trifolium ſpicis villoſis oblongis obtuſis aphyllis, foliolis ſubrotundis.* Caſpar Bauhine calls it, *Trifolium ſpicâ rotundâ rubrâ*; and John Bauhine, *Trifolium album incarnatum ſpicatum, ſeu lagopus maximus.* It grows naturally in Italy. Incarna=tum.

5. Narrow-leaved Trefoil is, *Trifolium ſpicis villoſis conico-oblongis, dentibus calycinis ſetaceis ſubæqualibus, foliolis linearibus.* Caſpar Bauhine calls it, *Trifolium montanum anguſtifolium ſpicatum*; and Barrelier, *Trifolium alopecurum anguſtifolium elatius.* It grows naturally in Narbonne and Italy. Angusti=folium.

6. Hare's Foot Trefoil is, *Trifolium ſpicis villoſis ovalibus, dentibus calycinis ſetaceis æqualibus.* Caſpar Bauhine calls it, *Trifolium arvenſe humile ſpicatum, ſ. lagopus*; Gerard, *Lagopodium ſive pes leporis*; and Parkinſon, *Lagopus vulgaris.* It grows naturally in ſandy places in England, and moſt countries of Europe; alſo in North America. Arven=se.

7. Round-headed Trefoil is, *Trifolium capitulis æqualibus rigidis ſeſſilibus, calycibus ſtriatis patulis* Glomera=tum.

æqualibus. In the *Hortus Cliffort.* it is termed, *Trifolium capitulis ſeſſilibus lateralibus ſubgloboſis.* Ray calls it, *Trifolium cum glomerulis ad caulium nodos rotundis*; and Barrelier, *Trifolium arvenſe ſupinum verticillatum.* It grows naturally in ſandy paſtures and meadows in England and Spain.

Scabrum. 8. Oval-headed Trefoil is, *Trifolium capitulis ſeſſilibus lateralibus ovatis calycibus inæqualibus rigidis perſiſtentibus.* Caſpar Bauhine calls it, *Trifolium capitulo oblongo-aſpero*; John Bauhine, *Trifolium cujus caules ex geniculis glomerulos oblongos proferunt*; and Ray, *Trifolium dilutè purpureum, glomerulis florum oblongis, ſine pediculis caulibus adnatis.* It grows naturally in England, Gaul, and Italy.

Striatum. 9. Knotted Trefoil is, *Trifolium capitulis ſeſſilibus ſublateralibus ovatis, calycibus ſtriatis rotundatis.* In the *Flora Suecia* it is termed, *Trifolium capitulis ſeſſilibus lateralibus ovatis, calycibus ſubrotundis villoſis ſtriatis*; and Ray, *Trifolium parvum hirſutum, floribus parvis dilutè purpureis in glomerulis mollioribus et oblongis, ſemine magno.* It grows naturally in dry paſtures in England, Germany, France, and Spain.

Agrarium. 10. Hop Trefoil is, *Trifolium ſpicis ovalibus imbricatis, vexillis deflexis perſiſtentibus, calycibus nudis, caule erecto.* Caſpar Bauhine calls it, *Trifolium pratenſe luteum, capitulo lupuli, ſ. agrarium*; Dodonæus, *Trifolium agrarium*; and Gerard, *Trifolium luteum minimum.* It grows naturally in meadows and paſtures in England, and moſt countries of Europe.

Filiforme. 11. Small Trefoil is, *Trifolium ſpicis ſubimbricatis, vexillis deflexis perſiſtentibus, calycibus pedicellatis, caulibus procumbentibus.* Moriſon calls it, *Trifolium lupulinum minimum.* It grows naturally in ſandy places in England.

Melilotus Officinalis. 12. Melilot is, *Trifolium leguminibus racemoſis nudis diſpermis rugoſis acutis, caule erecto.* Dodonæus calls it, *Trifolium odoratum, ſ. Melilotus*; Caſpar Bauhine, *Melilotus officinarum Germaniæ*; Gerard, *Melilotus Germanica*; and Parkinſon, *Melilotus vulgaris.* It grows naturally in England, and moſt countries of Europe.

CHAP. CCCXXXIV.

TRIGONELLA, FENUGREEK.

Species.

Of this genus are,

1. Common Cultivated Fenugreek.
2. Small Wild Fenugreek.
3. Prickly Fenugreek.
4. Cluſter-podded Fenugreek.
5. Ruſſian Melilot.
6. Broad-podded Siberian Melilot.
7. Corniculated Trefoil.
8. Ægyptian Melilot.
9. Jagged *Trigonella.*

Common Cultivated Fenugreek deſcribed.

1. Common Cultivated Fenugreek. The ſtalk is upright, hollow, branching, and a foot and a half high. The leaves are like thoſe of Trefoil, being compoſed of three oval, oblong, indented folioles, growing together on each footſtalk. The flowers are produced ſingly from the wings of the leaves, ſitting cloſe to the ſtalks; they are of a white colour, appear in July and Auguſt, and the ſeeds ripen in Auguſt and September.

This plant is cultivated in conſiderable plenty in the ſouthern parts of Europe, for the ſeeds, which are uſed in medicine. An attempt has often been made in England to propagate it for the ſame purpoſes, which has ſo often failed, that a repetition of the trial ſeems now to be diſcontinued.

Uſe of the ſeeds.

The ſeeds are of a roundiſh figure, a yellowiſh colour, and ſtrong, diſagreeable ſmell; they are rarely taken inwardly, but are chiefly employed in cataplaſms, fomentations, emollient glyſters, and the like.

Small Wild,

2. Small Wild Fenugreek. The ſtalk is ſlender, weak, branching, and about a foot long. The leaves are trifoliate, being compoſed of three ſmall, heart-ſhaped, ſerrated folioles, growing on ſhort footſtalks. The flowers come out in cluſters from the wings of the leaves; they are of a pale-yellow colour, appear in July and Auguſt, and the ſeeds ripen in September.

Prickly,

3. Prickly Fenugreek. The ſtalks are ſlender, herbaceous, branching, and about a foot long. The leaves are trifoliate, ſmall, and grow alternately on ſhort footſtalks. The flowers are produced in ſmall cluſters from the wings of the leaves on footſtalks, at the baſe of which is ſituated a ſharp, ſtrong ſpine; they are of a yellow colour, appear in July and Auguſt, and are ſucceeded by ſmooth, compreſſed pods, containing ripe ſeeds in September.

and Cluſter-podded Fenugreek deſcribed.

4. Cluſter-podded Fenugreek. The ſtalks are ſlender, weak, herbaceous, ſend out a few branches from the ſides, and grow to a foot and a half high. The leaves are compoſed of three wedge-ſhaped, ſerrated folioles, and grow on long, ſlender footſtalks. The flowers are produced in cluſters from the ends of the branches; they are of a pale yellow colour, appear in July, and are ſucceeded by narrow, ſtraight, upright, parallel pods, containing ripe ſeeds in September.

Ruſſian Melilot deſcribed.

5. Ruſſian Melilot. The ſtalk is ſlender, divides into many branches, lies on the ground, and is about a foot long. The leaves are trifoliate, the folioles being narrow, wedge-ſhaped, ſerrated, and indented on the extremity. The flowers are produced in cluſters from the wings of the leaves, ſtanding on ſlender footſtalks; they are of a bright-yellow colour, appear in June and July, and the ſeeds ripen in Auguſt.

This ſpecies is a Biennial, and ſhould be ſown earlier in the ſummer than any of the other ſorts, in order to grow ſtrong before the autumn, and flower more vigorous the ſummer following.

Broad-podded Siberian Melilot,

6. Broad-podded Siberian Melilot. The ſtalks are ſlender, about a foot and a half long, and divide into numerous branches, which, unleſs ſupported, lie on the ground; they are trifoliate, the folioles being roundiſh, and ſerrated on the edges. The flowers come out in cluſters from the wings of the leaves; they are of a whitiſh-yellow colour, appear in June, and are ſucceeded by broad, oval, pendulent, compreſſed pods, containing ripe ſeeds in September.

This ſpecies alſo is a Biennial, and requires early ſowing like the former.

Corniculated Trefoil,

7. Corniculated Trefoil. The ſtalk is erect, ſends out a few branches from the ſides, and grows to a foot and a half high. The leaves are trifoliate, and grow on ſhort footſtalks. The flowers are produced in cluſters from the wings of the leaves, having long, ſquare footſtalks, which are armed with ſoft ſpines; they are of a yellow colour, appear in July and Auguſt, and are ſucceeded by naked, ſharp-pointed, falcated pods, containing ripe ſeeds in September.

Ægyptian Melilot,

8. Ægyptian Melilot. The ſtalks are herbaceous, ſlender, partly procumbent, and divide into many branches, which ſpread themſelves a foot or more every way. The leaves are trifoliate, the folioles being oval, wedge-ſhaped, indented, veined, and downy underneath. The flowers are produced in looſe bunches from the ſides of the branches, growing on prickly footſtalks; they are of a yellow colour, appear in July, and are ſucceeded by ſlender, hooked, dependent pods, containing ripe ſeeds in September.

and Jagged Trigonella deſcribed.

9. Jagged *Trigonella.* The ſtalks are ſlender, ſmooth, and a foot and a half high. The leaves are trifoliate, the folioles being wedge-ſhaped, ſmooth, retuſed, and ſharply indented on the edges; the ſtipulæ are jagged, or deeply cut into many ſegments. The flowers are produced in flattiſh bunches from the wings of the leaves, elevated on ſhort footſtalks; they are of a yellow colour, appear in July, and are ſucceeded by oval, acute pods, containing ripe ſeeds in September.

Culture.

The laſt two ſorts ſhould be brought forward by a hot-bed in the ſpring; and when the plants are fit to remove, they muſt be ſet in ſome warm, well-ſheltered part of the garden.

The others are beſt raiſed by ſowing the ſeeds in the open ground, as ſoon as they are ripe; they will flower early the ſummer following, and ripen their ſeeds; which ſcattering, will often produce plants for a ſucceſſion without further trouble.

Titles.

Fænum Græcum.

1. The firſt ſort is titled, *Trigonella leguminibus ſeſſilibus ſtrictis erectiuſculis ſubfalcatis acuminatis, caule erecto.* In the *Hortus Cliffort.* it is termed, *Medicago leguminibus ſubſolitariis erectis reflexo-falcatis acuminatis.* Van Royen calls it, *Trigonella leguminibus ſeſſilibus*; Caſpar Bauhine, *Fœnum Græcum ſativum*; and Fuchſius, *Fœnum Græcum.* It grows naturally near Montpelier.

Monspeliaca.

2. The ſecond ſpecies is, *Trigonella leguminibus ſeſſilibus congeſtis arcuatis divaricatis inclinatis brevibus, pedunculis molliter mucronatis.* In the *Hortus Cliffort.* it is termed, *Medicago leguminibus confertis ſeſſilibus arcuatis inclinatis.* Rivinus calls it, *Fœnum Græcum polyceraton*; Breynius, *Fœnum Græcum ſylveſtre polyceratium minus Monſpeliacum*; and Dalechamp, *Hedyſarum minimum.* It grows naturally about Montpelier.

Spinosa.

3. The third ſpecies is, *Trigonella leguminibus ſubpedunculatis congeſtis declinatis ſubfalcatis compreſſis, pedunculis communibus ſpinoſis breviſſimis.* In the *Hortus Cliffort.* it is termed, *Medicago leguminibus ſæpiùs ternatis ſeſſilibus arcuatis declinatis, ſpinâ ex alis.* Breynius calls it, *Fœnum Græcum ſylveſtre polyceraton Creticum majus.* It grows naturally in Crete.

Polycerata.

4. The fourth ſpecies is, *Trigonella leguminibus ſubſeſſilibus congeſtis erectis longis linearibus, pedunculis communibus muticis.* In the *Hortus Cliffort.* it is termed, *Medicago leguminibus confertis longis rectis parallelis, pedunculo communi.* Van Royen calls it, *Medicago leguminibus confertis ſeſſilibus erectis*; Caſpar Bauhine, *Fœnum Græcum ſylveſtre alterum polyceraton*; and Dodonæus, *Fœnum Græcum ſylveſtre alterum.* It grows naturally in Spain, Italy, and the South of France.

Ruthenica.

5. The fifth ſpecies is, *Trigonella leguminibus pedunculatis congeſtis pendulis linearibus rectis, foliolis ſublanceolatis.* Van Royen calls it, *Trigonella leguminibus pedunculatis*; Amman, *Melilotus ſupina anguſtifolia, medicæ facie, ſiliquâ compreſſâ*; alſo, *Lotus montana humilior trifolia ad caulem alata lutea, ſiliquâ modo rectâ, modo medicaginis inſtar falcatâ nigrâ.* It grows naturally in Siberia.

Platycarpos.

6. The ſixth ſpecies is, *Trigonella leguminibus pedunculatis congeſtis pendulis ovalibus compreſſis, caule diffuſo, foliolis ſubrotundis.* Amman calls it, *Melilotus ſupina latifolia, ſiliquâ latâ membranaceâ compreſſâ.* It grows naturally in Siberia.

Corniculata.

7. The ſeventh ſpecies is, *Trigonella leguminibus pedunculatis congeſtis declinatis ſubfalcatis, pedunculis communibus longis ſubſpinoſis, caule erecto.* In the *Hortus Cliffort.* it is termed, *Trifolium floribus ſpicatis, leguminibus nudis mucronatis falcatis declinatis.* Caſpar Bauhine calls it, *Melilotus, corniculis reflexis, major*; Moriſon, *Melilotus lutea major, corniculis reflexis ex eodem centro ortis*; and Dodonæus, *Trifolium corniculatum.* It grows naturally in moſt of the ſouthern countries of Europe.

Hamosa.

8. The eighth ſpecies is, *Trigonella leguminibus pedunculatis racemoſis declinatis hamoſis teretibus, pedunculis communibus ſpinoſis folio longioribus.* Boerhaave calls it, *Fœnum Græcum, corniculis reflexis, minus et repens*; Caſpar Bauhine, *Melilotus, corniculis reflexis, minor ſ. repens*; and Alpinus, *Melilotus Ægypticus Achimelech vocatus.* It grows naturally in Ægypt.

Laciniata.

9. The ninth ſpecies is, *Trigonella leguminibus pedunculatis ſubumbellatis ellipticis, foliolis cuneiformibus dentatis, ſtipulis laciniatis.* It grows naturally in Ægypt.

Claſs and order in the Linnæan Syſtem. The characters.

Trigonella is of the claſs and order *Diadelphia Decandria*; and the characters are,

1. CALYX is a monophyllous, bell-ſhaped perianthium, cut at the brim into five awl-ſhaped, nearly equal ſegments.

2. COROLLA is papilionaceous, and ſeems to be compoſed of three petals.

The vexillum is ſuboval, obtuſe, reflexed, and patent.

The alæ are oval, oblong, reflexed, and ſpreading like the vexillum; ſo that they conſtitute the appearance of a regular flower of three petals.

The carina is very ſhort, obtuſe, and occupies the navel of the flower.

3. STAMINA are ſhort, diadelphous, aſſurgent filaments, with ſimple antheræ.

4. PISTILLUM conſiſts of an oval, oblong germen, a ſimple aſſurgent ſtyle, and a ſimple ſtigma.

5. PERICARPIUM is an oval, oblong, compreſſed, covered pod.

6. SEMINA. The ſeeds are few, and roundiſh.

CHAP. CCCXXXV.

TRITICUM, WHEAT.

THE reſpective ſpecies of Wheat, with their excellent varieties, are not deſigned for garden-culture; they are adapted for the exerciſe of the huſbandman, in his extenſive fields, and afford that bread which is ſignificantly called "the ſtaff of life."

The culture of this excellent grain is known to every huſbandman; and the neceſſity of changing the ſeeds at proper intervals, the leaſt of the farmer-tribe has experienced. The Great Wheat is preferred by ſome for ſome lands; the Summer Wheat by others; Poland Wheat is cultivated in abundance, and the Spelt Corn is raiſed in many places; but the moſt generally cultivated ſpecies is that without awns, commonly called Winter Wheat, or Common Brown Wheat.

As the management of this excellent grain is well-known, and the plant is ſo common as to need no deſcription, I ſhall only mention the ſorts that are diſtinct ſpecies, in order to introduce the titles.

The diſtinct ſpecies of Wheat then are,

Species. 1. Winter, or Common Brown Wheat.
2. Summer, or Spring Wheat.
3. Pollard, or Duck-bill Wheat.
4. Poland Wheat.
5. Gloſſy-ſpiked Wheat.
6. Spelt Wheat, or Spelt Corn.

All theſe are diſtinct ſpecies, and to one or other of them the many varieties of Wheat yet known belong. The titles are,

Titles. Hybernum. 1. Winter, or Common Wheat is titled, *Triticum calycibus quadrifloris ventricoſis lævibus imbricatis ſubmuticis.* Van Royen calls it, *Triticum radice annuâ, ſpicâ muticâ*; and Caſpar Bauhine, *Triticum Hibernum, ariſtis carens.* It is not certain in what part of the world this ſpecies grows naturally.

2. Spring, or Summer Wheat is, *Triticum calycibus quadrifloris ventricoſis glabris imbricatis ariſtatis.* Van Royen calls it, *Triticum radice annuâ, ſpicâ glabrâ ariſtatâ*; and Caſpar Bauhine, *Triticum æſtivum.* It grows naturally at Baſchiros. Æstivum.

3. Pollard, or Duck-bill Wheat is, *Triticum calycibus quadrifloris ventricoſis villoſis imbricatis ſubariſtatis.* Van Royen calls it, *Triticum radice annuâ, glumis villoſis*; and Moriſon, *Triticum ſpicâ villoſâ quadratâ breviore et turgidiore.* It is not certain in what part of the world this Wheat grows in a ſtate of Nature. Turgidum.

4. Poland Wheat is, *Triticum calycibus bifloris nudis, floſculis longiſſimè ariſtatis, racheos dentibus barbatis.* Plukenet calls it, *Triticum Polonicum*; and Moriſon, *Triticum majus, longiore grano, glumis foliaceis, Polonicum.* It is not known where this Wheat naturally grows. Polonicum.

5. Gloſſy-ſpiked Wheat is, *Triticum calycibus trifloris, floſculo altero ariſtato: intermedio neutro.* Sauvages calls it, *Triticum involucris unifloris floribus ariſtatis, ſpicâ diſtichâ*; Tournefort, *Hordeum diſtichum ſpicâ nitidâ ſ. briza nuncupatum*; Caſpar Bauhine, *Zea briza dicta ſ. monococcos Germanica*; and Lobel, *Briza monococcos Dodonæi.* It is not certain where this plant grows naturally. Monococcum.

6. Spelt Wheat is, *Triticum calycibus truncatis quadrifloris, floſculis ariſtatis hermaphroditis: intermedio neutro.* Sauvages calls it, *Hordeum floſculis lateralibus maſculis muticis involucro deſtitutis*; and Caſpar Bauhine, *Zea dicoccos vel Spelta major.* The native place of this ſpecies is alſo yet unknown. Spelta.

CHAP. CCCXXXVI.

TROPÆOLUM, INDIAN CRESS.

THIS genus comprehends thoſe flowers which are uſually called *Naſturtium* in our gardens. There are two ſpecies of them which we call Annuals, though they are in reality Perennials; for though we raiſe them every year from ſeeds, and the plants always die on the firſt approach of froſt in the autumn, yet theſe plants may be continued for many years in a green-houſe; nay, there is a variety of one of them, called the Double *Naſturtium*, that is always reckoned a green-houſe plant, and ſhall be conſidered accordingly.

The real ſpecies of *Naſturtiums* with this property are,

Species. 1. The *Naſturtium Minus.*
2. The *Naſturtium Majus.*

1. The *Naſturtium Minus*, or Smaller Indian Creſs, has a long, trailing ſtalk, of a greyiſh colour, and very tender; the leaf is roundiſh, en-

tire, of a greyiſh colour, and the footſtalks are placed almoſt in its center, which occaſions its being called a peltated leaf. The flowers grow from the wings of the leaves all along the branches. There are two varieties of them, viz.

Varieties. The Pale-yellow,
The Orange coloured.

They both blow in June or July, and continue the ſucceſſion of flowers from the ſame plant until the froſt ſtops them.

Naſturtium Majus deſcribed. 2. The *Naſturtium Majus*, or Greater Indian Creſs, has larger ſtalks than the former, and which in the compaſs of one ſummer will trail along the ground to the length of near twenty feet. The leaves are larger than the other ſort; they are rounded, and their footſtalks are placed in the poſition of the former, but they are indented or divided nearly into five lobes. The flowers alſo are larger, though they are produced in the ſame manner. They conſiſt of the ſame varieties of Orange and Pale-yellow flowers, beſides the Double kind, and one that is remarkably finely ſcented. They flower in July, and will continue the ſucceſſion until the froſt ſtops them.

Culture. Theſe plants are propagated by putting two or three ſeeds in a ſmall hole, in April, in ſuch places where you would chuſe them to grow, covering them down about three quarters of an inch deep. After the plants come up, ſticks muſt be placed by them for their ſupport: To theſe you muſt train them up, and it will have a neat look, and cauſe them to ſhow their flowers to perfection; whereas, if they are permitted to trail along the ground, their flowers will not only be hid in a great meaſure among the leaves, but they will make a ſlovenly appearance, and overrun every thing that is near them.

Titles. Minus

1. The firſt ſort is titled, *Tropæolum foliis integris petalis acuminato-ſetaceis*. In the *Hortus Cliffort.* it is termed, *Tropæolum foliis petalis orbiculatis*. Tournefort calls it, *Cardamindum minus et vulgare*; Caſpar Bauhine, *Naſturtium Indicum majus*; and Lobel, *Naſturtium Indicum*. It grows naturally in Peru.

Majus

2. The ſecond ſort is titled, *Tropæolum foliis ſubquinquelobis, petalis obtuſis*. In the *Hortus Cliffort.* it is termed, *Tropæolum foliis peltatis orbiculatis*. Tournefort calls it, *Cardamindum ampliori folio et majori flore*; Boerhaave, *Acriviola maxima odorata*; and Herman, *Viola inodora ſcandens, naſturtii ſapore, maxima odorata*. It grows naturally in Peru.

Claſs and order in the Linnæan Syſtem. The characters.

Tropæolum is of the claſs and order *Octandria Monogynia*; and the characters are,

1. Calyx is a monophyllous, cornuted, coloured, deciduous perianthium, divided into five erect, ſpreading, acute ſegments, of which the two lower ones are the narroweſt.

2. Corolla conſiſts of five roundiſh petals, inſerted in the diviſions of the calyx; the two upper of which are ſeſſile, but the lower ones have oblong, ciliated ungues.

3. Stamina conſiſt of eight ſhort, ſubulated, declinated, unequal filaments, with erect, oblong, quadrilocular, aſſurgent antheræ.

4. Pistillum conſiſts of a roundiſh, trilobate, ſtriated germen; a ſimple, erect ſtyle, the length of the ſtamina; and a trifid, acute ſtigma.

5. Pericarpium is three roundiſh, convex, ſulcated, ſtriated berries.

6. Semina. The ſeeds are three, roundiſh, furrowed, ſtriated, gibbous on one ſide, and angular on the other.

CHAP. CCCXXXVII.

TURRITIS, TOWER MUSTARD.

Species. THERE are two ſpecies of this genus, called,
1. Smooth Tower Muſtard.
2. Rough Tower Muſtard.

Smooth, 1. Smooth Tower Muſtard. The ſtalk is upright, round, tolerably firm, and a foot and a half high. The radical leaves ſpread themſelves on the ground, are very rough, indented on the edges; and thoſe on the ſtalks are very ſmooth, ſharp-pointed, entire, and embrace the ſtalk with their baſe. The flowers are produced in ſpikes at the tops of the ſtalks; they are ſmall, of a white colour, appear in June and July, and the ſeeds ripen in Auguſt and September.

and Rough Tower Muſtard deſcribed. 2. Rough Tower Muſtard. The ſtalks are round, ſlender, upright, and about a foot high. All the leaves are extremely rough, thoſe on the ſtalks as well as thoſe at the root; they are oblong, and rounded at the extremity, where they are broadeſt; but they are oval, and embrace the ſtalk with their baſe. The flowers are produced in ſhort ſpikes at the tops of the plant; they are ſmall, of a white colour, appear early in July, and the ſeeds ripen in July and Auguſt.

Culture. Theſe plants grow naturally upon old walls and buildings; ſo that whoever is deſirous of obtaining them, may eaſily effect it by ſowing the ſeeds, ſoon after they are ripe, in the like ſituation: They may be alſo ſown in ſandy, dry places, or in any ſterile part of the garden, where they will grow; and their ſeeds ſcattering, will maintain the ſucceſſion without further trouble. Theſe plants are rarely admitted into gardens, otherwiſe than in the aforeſaid ſituation, to be ready for obſervation, and cauſe variety where hardly any thing elſe will thrive.

Titles. Glabra

1. The firſt ſpecies is titled, *Turritis foliis radicalibus dentatis hiſpidis, caulinis integerrimis amplexicaulibus glabris*. Caſpar Bauhine calls it, *Braſſica ſylveſtris, foliis circa radicem cichoraceis*; Tournefort, *Turritis foliis inferioribus cichoraceis, reliquis perfoliatis*; and Gerard, *Turritis*. It grows naturally in dry, ſandy, gravelly places in England, and moſt countries of Europe.

2. The

Hirsuta.

2. The ſecond ſpecies is, *Turritis foliis omnibus hiſpidis, caulinis amplexicaulibus.* Caſpar Bauhine calls it, *Eryſimo ſimilis hirſuta, non laciniata, alba*; Ray, *Turritis muralis minor*; and Parkinſon, *Eryſimo ſimilis hirſuta planta.* It grows naturally on rocks and old buildings in England, Sweden, and Germany.

Claſs and order in the Linnæan Syſtem. The characters.

Turritis is of the claſs and order *Tetradynamia Siliquoſa*; and the characters are,

1. CALYX is a perianthium compoſed of four oval, oblong, parallel, connivent, deciduous leaves.

2. COROLLA conſiſts of four petals, placed in form of a croſs. The petals are oval, oblong, obtuſe, erect, entire, and have erect ungues.

3. STAMINA are ſix awl-ſhaped, erect filaments the length of the tube; of theſe, two are ſhorter than the others, and all have ſimple antheræ.

4. PISTILLUM conſiſts of a taper, ſlightly-compreſſed germen the length of the flower, without any ſtyle, but an obtuſe ſtigma.

5. PERICARPIUM is a very long, four-cornered pod, formed of two valves, and containing two cells.

6. SEMINA. The ſeeds are numerous, roundiſh, and indented.

CHAP. CCCXXXVIII.

VALERIANA, VALERIAN.

Species.

THE Annuals of this genus are,
1. Star Thiſtle-leaved Valerian.
2. Ringent-flowered Valerian.
3. Echinated Valerian.
4. Low Yellow Valerian.

Deſcription of Star Thiſtle-leaved

1. Star Thiſtle-leaved Valerian will grow to about a foot high. The ſtalks are round, ſmooth, hollow, and ſend forth branches by pairs from the joints. The leaves are pinnatifid, and the lobes or ſegments are narrow, and ſharp-pointed. The flowers grow from the tops of the ſtalks and ſide-branches in tufts; they are ſmall, and of a whitiſh colour with a tinge of red; they will be in blow in June or July, and are ſucceeded by ripe, downy ſeeds ſoon after.

and Ringent-flowered Valerian.

2. Ringent-flowered Valerian. The ſtalks are of a purpliſh colour, thick, channelled, branching, and will grow to near a foot high. The leaves are ſmooth, of an oval figure, and grow oppoſite by pairs at the joints, without any footſtalks. The flowers are ringent, and grow in cluſters at the ends of the branches, having two leaves under each cluſter, that embrace the ſtalk with their baſe; they appear in June or July, and are ſucceeded by fruit ſhaped like a *Cornucopia.*

Varieties.

The varieties of this ſpecies are,
The Red-flowered,
The Purple,
The White.

Echinated

3. Echinated Valerian. The ſtalk is jointed, and divides by pairs. The leaves are ſpear-ſhaped, obtuſe, indented, and ſit cloſe, without any footſtalks. The flowers are produced from the diviſions of the branches; they are funnel-ſhaped, white, and their brims are cut into five ſegments; they appear in June and July, and they are ſucceeded by narrow fruit, indented in three parts.

and Low Yellow Valerian deſcribed.

4. Low Yellow Valerian. This plant hath a low ſtalk, which will grow to about a foot high, and ſend from the ſides about two pair of ſhort branches, the lower ones being the longeſt. The leaves are pinnatifid, and grow oppoſite by pairs, without any footſtalks; the lobes are ſmooth and oblong on the lower part of the plant, but higher they are acute-pointed: They conſiſt of about four or five pair, beſides a large one at the end, indented in three or five parts. The flowers terminate the principal ſtalks and branches in kind of umbels; their colour is a bright-yellow; they will be in blow in July, and ripen their ſeeds in September.

Culture.

The ſeeds of all theſe ſorts ſhould be ſown in the autumn, ſoon after they are ripe, and they will flower earlier the ſummer following. They love a light, ſandy ſoil; and if they are thus ſtationed, they will often ſhed their ſeeds, which will come up without trouble to the Gardener. The firſt ſort grows out of the crevices of old walls, buildings, &c. and in ſuch places the plants are very ſmall. The laſt ſort may be treated as a Biennial, as it frequently refuſes to flower before the ſecond year after ſowing, ſoon after which it dies away.

Titles.

1. The Star Thiſtle-leaved Valerian is titled, *Valeriana floribus monandris, foliis pinnatifidis.* Caſpar Bauhine calls it, *Valeriana foliis calcitrapæ*; and Cluſius, *Valeriana annua ſive æſtiva.* It grows naturally in Portugal and the Eaſt.

Calci-trapa.

2. Ringent-flowered Valerian is, *Valeriana floribus diandris ringentibus, foliis ovatis ſeſſilibus.* Caſpar Bauhine calls it, *Valeriana peregrina purpurea albave*; Cluſius, *Valeriana Indica*; and Moriſon, *Pſeudo-valeriana cornucopioides annua purpurea.* It grows naturally in America, Mauritania, Sicily, and Spain.

Cornucopia.

3. Echinated Valerian is, *Valeriana floribus triandris regularibus, foliis dentatis, fructibus linearibus tridentatis: extimo majore recurvo.* Sauvages calls it, *Valeriana foliis dentato-ſerratis, pedunculis conicis, ſeminibus tridentatis*; Caſpar Bauhine, *Valeriana echinata*; and Columna, *Valerianella*

Echinata.

lerianella cornucopioides echinata. It grows naturally in Italy, and near Montpelier.

Sibirica.

4. Low Yellow Valerian is titled, *Valeriana floribus tetrandris æqualibus foliis pinnatifidis, ſeminibus paleæ ovali adnatis.* Amman calls it, *Valeriana lutea humilis.* The *Anonymus Cheuſanenſis, ſideritidis folio, fructu ulmi ſamaris haud abſimili* of Plukenet is a variety of this ſpecies.

* * *

C H A P CCCXXXIX.

VELLA, SPANISH CRESS.

The plant deſcribed.

THERE is only one Annual of this genus, called Creſs Rocket.

The ſtalk is hairy, branching, and about a foot high. The leaves are pinnatifid, long, and narrow. The flowers come out in ſpikes from the ends of the branches; they are ſmall, and ſhaped like thoſe of the Rocket; they appear in June, and the ſeeds ripen in Auguſt.

Method of propagation.

This plant is propagated by ſowing the ſeeds, ſoon after they are ripe, in the places where they are to remain. When the plants come up, they will require no trouble, except thinning them to proper diſtances, and keeping them clean from weeds. After they have once flowered, and the ſeeds ſcattered, plants enough for a ſucceſſion will ſpontaneouſly ariſe.

Titles.

Annua.

This ſpecies is titled, *Vella foliis pinnatifidis, ſiliculis pendulis.* Caſpar Bauhine calls it, *Naſturtium ſylveſtre, erucæ facie*; Cluſius, *Naſturtium ſylveſtre Valentinum*; John Bauhine, *Naſturtium ſylveſtre Valentinum Cluſij*; and Gerard, *Eruca Naſturtio cognato tenuifolia.* It grows naturally in Spain; alſo on Saliſbury Plain.

* * *

C H A P. CCCXL.

VERBASCUM, MULLEIN.

Species.

OF this genus are,

1. Great White Mullein.
2. Hoary Mullein, or White-flowered Mullein.
3. Phlomoide Mullein.
4. Yellow Moth Mullein.
5. Sinuated Mullein.

Deſcription of Great White Mullein.

1. Great White Mullein. This plant is often called Hig Taper, and Cow's Lung-wort. The radical leaves are long, broad, woolly, of a yellowiſh-white colour, have ſhort footſtalks, and ſpread themſelves on the ground. The ſtalk is thick, firm, ſimple, five or ſix feet high, and garniſhed with woolly, decurrent leaves, ſitting cloſe, and embracing it with their baſe. The flowers come out from the upper-parts of the ſtalk in a long, thick, ſpike; they are large, of a bright-yellow colour, and finely ſcented; they appear in July, and the ſeeds ripen in the autumn.

Its virtues

This ſpecies is a fine emollient, and is ſaid to be good for conſumptions, diſorders of the lungs, &c. A little fine treacle ſpread on a leaf, and applied to the piles, is ſaid to effect a ſpeedy cure.

Hoary Mullein deſcribed.

2. Hoary Mullein, or White-flowered Mullein. The lower leaves are large, wedge-ſhaped, oblong, woolly, and end in acute points. The ſtalk is thick, upright, branching near the top, and covered with leaves like the radical ones, but ſmaller, and more acute. The flowers come out in ſpikes from the ends of the branches; they are ſmall, of a white colour, and finely ſcented; they appear in July and Auguſt, and the ſeeds ripen in the autumn.

Variety.

There is a variety of this ſpecies with yellow flowers.

Phlomoide,

3. Phlomoide Mullein. The lower leaves are oval, pointed, woolly on both ſides, and have ſhort footſtalks. The ſtalks are thick, upright, firm, five or ſix feet high, purpliſh, and covered with a hoary down. The flowers are produced in very thick, cloſe ſpikes from the tops of the ſtalks; they are large, and of a deep-yellow colour; they appear in July and Auguſt, and the ſeeds ripen in the autumn.

and Yellow Moth Mullein deſcribed.

4. Yellow Moth Mullein. The leaves are oblong, ſmooth, ſinuated, obtuſe, and embrace the ſtalk with their baſe. The ſtalk is upright, firm, branching near the top, and five or ſix feet high. The flowers come out ſingly on footſtalks from the ſides of the branches, almoſt their whole length; they are of a yellow colour,

appear in June, and the ſeeds ripen in Auguſt.

Varieties.

There is a variety of this ſpecies with white flowers, and another with jagged leaves.

Deſcription of Sinuated Mullein.

5. Sinuated Mullein. The ſtalk is thick, firm, ſends out ſeveral ſlender branches from the ſides, and grows to be ſix feet high. The radical leaves are oblong, hoary, ſinuated, and waved on their edges, and the upper ones are heart-ſhaped, and embrace the ſtalks with their baſe. The flowers come out in cluſters from the ſides of the branches; they are ſmall, of a yellow colour, appear in July, and the ſeeds ripen in the autumn.

Culture.

Theſe plants are beſt raiſed by ſowing the ſeeds as ſoon as they are ripe, becauſe if they are kept until the ſpring, the plants will ſeldom flower early enough to perfect their ſeeds. After the ſeed is once ripened, if it is permitted to ſcatter, the beſt and ſtrongeſt plants in general for a ſucceſſion will ariſe.

Titles.

Thapsus.

1. Great White Mullein, Hig Taper, Cow's Lungwort, is titled, *Verbaſcum foliis decurrentibus utrinque tomentoſis.* In the *Hortus Cliffort.* it is termed, *Verbaſcum caule ſimplici supernè floribus ſeſſilibus clavato, foliis utrinque lanigeris.* Caſpar Bauhine calls it, *Verbaſcum mas latifolium luteum*; Dodonæus, *Verbaſcum mas*; and Gerard, *Thapſus barbatus.* It grows naturally in ſterile places in England, and moſt countries of Europe.

Lychnitis.

2. Hoary Mullein, or White-flowered Mullein, is, *Verbaſcum foliis cuneiformi-oblongis.* In the *Hortus Cliffort.* it is termed, *Verbaſcum foliis ovato-acutis ſubtus villoſis crenatis, ſpicis laxis lateralibus & terminalibus.* Caſpar Bauhine calls it, *Verbaſcum lychnitis, flore albo parvo*; John Bauhine, *Verbaſcum flore albo parvo*; Parkinſon, *Verbaſcum mas foliis longioribus*; and Gerard, *Verbaſcum lychnitis Matthioli.* It grows naturally in ſandy, chalky places in England, and moſt countries of Europe.

Phlomoides.

3. Phlomoide Mullein is, *Verbaſcum foliis ovatis utrinque tomentoſis, inferioribus petiolatis.* Caſpar Bauhine calls it, *Verbaſcum femina, flore luteo magno*; and Tilli, *Verbaſcum montanum tomentoſum & incanum, folio ſubrotundo, caule non alato, ſtaminibus purpureis.* It grows naturally in Italy.

Blattaria.

4. Yellow Moth Mullein is, *Verbaſcum foliis amplexicaulibus oblongis glabris pedunculis ſolitariis.* In the *Hortus Cliffort.* it is termed, *Verbaſcum annuum, foliis oblongis ſinuatis obtuſis.* Van Royen calls it, *Verbaſcum foliis glabris ſerrato-dentatis, radicalibus ſinuatis*; Caſpar Bauhine, *Blattaria lutea folio longo laciniato*; John Bauhine, *Blattaria lutea*; Parkinſon, *Blattaria flore luteo*; and Gerard, *Blattaria Plinii.* It grows naturally in gravelly and marley ſoils in England, and moſt countries of Europe.

Sinuatum.

5. Sinuated Mullein is, *Verbaſcum foliis radicalibus pinnatifido-repandis tomentoſis, caulinis amplexicaulibus nudiuſculis, rameis primis oppoſitis.* Van Royen calls it, *Verbaſcum foliis pinnato-ſinuatis hirſutis: ſubtus tomentoſis*; and Caſpar Bauhine, *Verbaſcum nigrum, foliis papaveris corniculati.* It grows naturally in Italy, and the South of France.

CHAP. CCCXLI.

VERBENA, VERVAIN.

OF this genus there are two hardy, ſhort-lived ſpecies, called,

Species.

1. Common Vervain.
2. Narrow-leaved Vervain.

Deſcription of Common Vervain.

1. Common Vervain. The root is long, white, and bitter to the taſte. The ſtalk is ſquare, firm, hairy, branching a little, and about two feet high. The leaves are oblong, of a duſky-green colour, deeply jagged or ſinuated on the borders, and grow oppoſite by pairs at the joints. The flowers come out from the ends and ſides of the branches in long, thin, ſlender ſpikes; they are ſmall, and of a pale-blue colour; they appear in July and Auguſt, and the ſeeds ripen in the autumn.

Variety.

There is a variety of this ſpecies with white flowers.

Medicinal properties

This plant is ſaid to be an excellent carminative, cephalic, and has been more extolled for its virtues in removing complaints of moſt kinds, than what the preſent practice will allow.

Narrow-leaved Vervain deſcribed.

2. Narrow-leaved Vervain. The ſtalks are weak, two feet long, branching, and unable to ſupport themſelves in an upright poſition. The leaves are bipinnated, and ſit cloſe to the ſtalks. The flowers are produced from the ends of the branches in long, looſe, ſlender ſpikes; they are of a blue colour, appear in July and Auguſt, and the ſeeds ripen in the autumn.

Culture.

Theſe plants are propagated by ſowing the ſeeds, ſoon after they are ripe, in almoſt any ſoil or ſituation. After the plants come up, they will require no trouble, except thinning them where they are too cloſe, and keeping them clean from weeds; and when the ſeeds are ripe, if they are permitted to ſcatter, there will be no fail of theſe plants for a ſucceſſion.

Titles.

Officinalis.

1. The firſt ſpecies is titled, *Verbena tetrandra, ſpicis filiformibus paniculatis, foliis multifido-laciniatis, caule ſolitario.* Van Royen calls it, *Verbena foliis multifido-laciniatis, ſpicis filiformibus*; Caſpar Bauhine, *Verbena communis, flore cæruleo*; John Bauhine, *Verbena vulgaris*; Dodonæus, *Verbena recta*; Gerard, *Verbena communis*; and Parkinſon, *Verbena mas ſ. recta et vulgaris.* It grows naturally about towns, and in public roads, in England, and moſt countries of Europe.

Supina.

2. The ſecond ſpecies is, *Verbena tetrandra, ſpicis filiformibus ſolitariis.* Caſpar Bauhine calls it, *Verbena tenuifolia*; and Cluſius, *Verbena ſupina.* It grows naturally in Spain.

CHAP.

CHAP. CCCXLII.

VERBESINA.

Species. OF this genus are,

1. Winged *Verbeſina.*
2. White *Verbeſina.*
3. *Scrophularia*-leaved *Verbeſina.*
4. Proſtrate *Verbeſina.*
5. Two-flowered *Verbeſina.*

Winged, 1. Winged *Verbeſina.* The ſtalk is winged, upright, two feet high, and ſends forth a few ſhort branches near the top. The leaves are oval, obtuſe, waved on the edges, placed alternately, and have a border or membrane running from the baſe of each along the ſtalk. The flowers come out from the tops of the ſtalks on long, naked footſtalks; they are of a deep-orange colour, appear in July, and continue in ſucceſſion until the end of autumn.

White, 2. White *Verbeſina.* The ſtalk is upright, branching, and about a foot and a half high. The leaves are ſpear-ſhaped, ſerrated, grow oppoſite to each other, and ſit cloſe to the ſtalks. The flowers come out from the wings of the leaves on ſlender footſtalks; they are of a white colour, appear in July and Auguſt, and continue in ſucceſſion until the end of autumn.

Scrophularia-leaved, 3. *Scrophularia*-leaved *Verbeſina.* The ſtalk is upright, branching, and near a yard high. The leaves are oval, trinervous, ſmooth, acute, and grow oppoſite to each other on longiſh footſtalks. The flowers are produced from the ends and ſides of the branches on ſhort footſtalks; they are of a yellow colour, appear in July, and continue in ſucceſſion until the froſt ſtops them.

Proſtrate, 4. Proſtrate *Verbeſina.* The ſtalks are proſtrate, branching, and a foot and a half long. The leaves are ſpear-ſhaped, broad, ſhort, and ſerrated. The flowers grow, two together, on very ſhort footſtalks, ariſing from the wings of the leaves; they are of a whitiſh colour, appear in July, and continue until the autumn.

and Two-flowered Verbeſina deſcribed. 5. Two-flowered *Verbeſina.* The ſtalk is upright, ſends forth branches from the ſides oppoſite to each other, and grows to about two feet high. The leaves are oblong, oval, triple-nerved, ſomewhat rough, acuminated, ſharply ſerrated, and grow oppoſite to each other on footſtalks. The flowers come out, two together, on footſtalks ariſing from the ends and ſides of the branches; they are of a yellow colour, appear in July, and continue in ſucceſſion until the end of autumn.

Culture. Theſe are abiding plants in their native countries, and with us they may be brought to flower and perfect their ſeeds in one year. For this purpoſe, ſow the ſeeds in a hot-bed in the ſpring; and when the plants are fit to remove, let each be ſet in a ſeparate pot filled with light, rich earth; then plunge them up to the rims in a freſh hot-bed, and water and ſhade them until they have taken root. After that, harden them to the air by degrees; and when this is effected, turn them out, with the mould at the roots, into ſome warm, well-ſheltered part of the garden, where they will flower, and perfect their ſeeds. If much wet weather ſhould happen, let a few plants be covered with glaſſes, the more effectually to procure good ſeeds; which will be ſome weeks before the plants have done flowering. If there is the conveniency of a ſtove, the ſeeds may be ſown late in the ſpring, and the plants be leſs forced in the ſummer, and be taken into the ſtove in the autumn: Such plants will flower ſtrong the ſummer following, and afford ſeeds in abundance.

Titles. Alata. 1. The firſt ſpecies is titled, *Verbeſina foliis alternis decurrentibus undulatis obtuſis.* Magnol calls it, *Cannabina Indica, foliis integris, alato caule*; Herman, *Chryſanthemum Curaſſavicum, alato caule, floribus aurantiis*; Commeline, *Chryſanthemum Americanum, caule alato, flore aphyllo globoſo aurantio, foliis baccharidis*; Plukenet, *Chryſanthemum Americanum bidens alatum, flore parvo aurantio*; and Volkamer, *Chryſanthemum conyzoides Curaſſavicum, abrotani feminæ flore aurantio.* It is a native of Curaſſao and Surinam.

Alba. 2. The ſecond ſpecies is, *Verbeſina foliis lanceolatis ſerratis ſeſſilibus.* Vaillant calls it, *Eupatoriophalacron balſaminæ feminæ folio, flore albo diſcoide*; and Plukenet, *Scabioſa conyzoides Americana latifolia, capitulis & floribus albis parvis.* It grows naturally in Virginia and Surinam.

Lavenia. 3. The third ſpecies is, *Verbeſina foliis ovatis trinerviis glabris petiolatis, ſeminibus tricornibus.* Vaillant calls it, *Eupatoriophalacron ſcrophulariæ folio trinervi*; Burman, *Eupatoriophalacron ſcrophulariæ aquaticæ foliis oppoſitis*; and Ray, *Chryſanthemum aquaticum, ſcrophulariæ folio, lavenia dictum.* It grows naturally in Ceylon.

Proſtrata. 4. The fourth ſpecies is, *Verbeſina foliis lanceolatis ſerratis, floribus alternis geminis ſubſeſſilibus.* Vaillant calls it, *Eupatoriophalacron menthæ arvenſis folio*; and Plukenet, *Chryſanthemum Maderaſpatanum, menthæ arvenſis folio et facie, floribus bigemellis ad alas, pediculis curtis.* It grows naturally in India.

Biflora. 5. The fifth ſpecies is, *Verbeſina foliis oblongo-ovatis triplinerviis acuminatis ſerratis, pedunculis geminis bifloris.* It grows naturally in India.

Claſs and order in the Linnæan Syſtem. *Verbeſina* is of the claſs and order *Syngeneſia Polygamia Superflua*; and the characters are,

The characters. 1. Calyx. The general calyx is concave, and compoſed of many oblong, channelled, concave, erect, and for the moſt part equal leaves.

2. Corolla. The compound flower is radiated. The hermaphrodite flowers are many in the diſk; the females are fewer in the radius. Each hermaphrodite flower has one funnel-ſhaped, erect petal, indented in five parts at the top.

The females are tongue-ſhaped, and trifid.

3. Stamina of the hermaphrodites conſiſts of five very ſhort, capillary filaments, with a cylindrical, tubular anthera.

4. Pistillum belonging to the hermaphrodites, conſiſts of an oblongiſh germen, a filiforme

ſtyle the length of the ſtamina, and two reflexed ſtigmas.

In the females it conſiſts of an oblongiſh germen, a filiforme ſtyle the length of the hermaphrodite, and two reflexed ſtigmas.

5. Pericarpium. There is none.

6. Semina. The ſeeds of the hermaphrodites are ſingle; thickiſh, angular, and often crowned with a coarſe, three-pointed down.

The females are like the hermaphrodites.

The receptacle is paleaceous. The paleæ are deciduous.

CHAP. CCCXLIII.

VERONICA, SPEEDWELL.

OF this genus are the following Annuals, viz.

Species.

1. Speedwell Chickweed.
2. Germander Speedwell, or Chickweed.
3. Ivy-leaved Speedwell, or Small Henbit.
4. Trifid Speedwell.
5. Vernal Speedwell.
6. Roman Speedwell.
7. *Polygonum*-leaved Speedwell.

Speedwell Chickweed deſcribed.

1. Speedwell Chickweed. The ſtalks are ſlender, ſend out branches by pairs, and are ſix or eight inches long. The leaves are heart-ſhaped, cut on their edges, and grow oppoſite to each other under the branches. The flowers come out ſingly from the ſides of the branches almoſt their whole length; they are of a blue colour, appear in May and June, and the ſeeds ripen in July and Auguſt.

Deſcription of Germander

2. Germander Speedwell, or Chickweed. The ſtalks are ſlender, branching, weak, and trailing. The leaves are heart-ſhaped, crenated, and much reſemble thoſe of Germander. The flowers come out ſingly from the ſides of the branches, are ſmall, of a blue colour, appear in May and June, and the ſeeds ripen in July.

and Ivy-leaved Speedwell

3. Ivy-leaved Speedwell, or Small Henbit. The ſtalks are ſlender, hairy, branching, and lie flat on the ground. The leaves are heart-ſhaped, plane, hairy, and ſeveral of them are cut into three, others into five lobes, in the manner of Ivy. The flowers come out from the ſides of the branches on ſhort footſtalks; they are of a blue colour, appear in April and May, and the ſeeds ripen in June and July.

Variety.

There is a variety of it with white flowers.

Trifid,

4. Trifid Speedwell. The ſtalks are ſlender, nearly upright, and divide into branches from the bottom to the top. The lower leaves are divided into five ſegments; the upper ones into three; they are of a thickiſh ſubſtance, are ſmooth, of a dark-green colour, and placed alternately. The flowers come out ſingly from the ſides of the branches, are ſmall, of a blue colour, appear in May and June, and the ſeeds ripen in July.

Vernal,

5. Vernal Speedwell. The ſtalk is ſlender, erect, and five or ſix inches high. The leaves are digitated, and grow on ſhort footſtalks. The flowers are ſmall, of a blue colour, and appear early in the ſpring.

Roman,

6. Roman Speedwell. The ſtalks are ſlender, upright, and ſix or eight inches high. The leaves are oblong, ſmooth, and ſlightly indented on their edges. The flowers come out ſingly from the ſides of the branches, are of a blue colour, and appear in June and July.

and Polygonum-leaved Speedwell deſcribed.

7. *Polygonum*-leaved Speedwell. The ſtalks are ſlender, upright, and ſix or eight inches high. The leaves are ſpear-ſhaped, narrow, obtuſe, ſmooth, and undivided on their edges. The flowers come out ſingly from the ſides of the branches, and ſit cloſe, having no footſtalks; they are of a white colour, appear in June, and the ſeeds ripen in Auguſt.

Culture.

The firſt four ſpecies are intruders into gardens, and the others are rarely admitted. They may be all propagated by ſowing the ſeeds; ſoon after they are ripe, in any ſoil or ſituation; and when they have once flowered, and the ſeeds are ſcattered, they will afterwards become as bad as weeds to eradicate entirely.

Titles.

Arvensis.

1. Speedwell Chickweed is titled, *Veronica floribus ſolitariis, foliis cordatis incisis pedunculo longioribus.* Hudſon calls it, *Veronica floribus ſolitariis, foliis cordatis inciſis ſeſſilibus*; Van Royen, *Veronica foliis oppoſitis cordatis crenatis, floribus ſolitariis ſeſſilibus*; Caſpar Bauhine, *Alſine veronicæ foliis, floſculis cauliculis adhærentibus*; Gerard, *Alſine foliis veronicæ*; and Parkinſon, *Alſine foliis ſubrotundis veronicæ.* It grows naturally in cultivated fields, on old walls, &c. in England and moſt countries of Europe.

Agrestis.

2. Germander Speedwell is, *Veronica floribus ſolitariis, foliis cordatis inciſis pedunculo brevioribus.* Hudſon calls it, *Veronica floribus ſolitariis, foliis cordatis inciſis petiolatis*; Van Royen, *Alſine foliis cordatis crenatis, floribus ſolitariis pedunculatis*; Caſpar Bauhine, *Alſine chamædryfolia, floſculis pediculis oblongis inſidentibus*; and Gerard, *Alſine foliis triſſaginis.* It grows naturally in cultivated fields, by way ſides, &c. in England and moſt countries of Europe.

Hederi=folia.

3. Ivy-leaved Speedwell, or Small Henbit, is, *Veronica floribus ſolitariis, foliis cordatis planis quinquelobis.* Ray calls it, *Veronica floſculis ſingularibus, hederulæ folio, morſus gallinæ minor dicta*; Caſpar Bauhine, *Alſine hederulæ folio*; Gerard, *Alſine hederacea*; and Parkinſon, *Alſine hederulæ folio minor.* It grows naturally in cultivated fields, &c. in England and moſt countries of Europe.

Triphyl=los.

4. Trifid Speedwell is, *Veronica floribus ſolitariis, foliis digitato-partitis, pedunculo brevioribus.* Van Royen calls it, *Veronica foliis alternis inferioribus quinquepartitis, ſuperioribus tripartitis, floribus ſolitariis*; Caſpar Bauhine, *Alſine triphyllos cærulea*; Lobel, *Alſine parva erecta, folio alſines hederaceo*; Ray, *Veronica floſculis ſingularibus, foliis laciniatis, erecta*; Gerard, *Alſine recta*; and

Parkinson, *Alſine triphyllos ſive laciniata.* It grows naturally in light, ſandy ſoils in England and moſt countries of Europe.

Verna. 5. Vernal Speedwell is, *Veronica floribus ſolitariis, foliis digitato-partitis pedunculo longioribus.* Dillenius calls it, *Veronica humilis erecta montana, flore parvo cæruleo.* It grows naturally in dry, warm places in Sweden, Germany, and Spain.

Romana. 6. Roman Speedwell is, *Veronica floribus ſolitariis ſubſeſſilibus, foliis oblongis ſubdentatis, caule erecto.* It grows naturally in moſt of the ſouthern countries of Europe.

Peregrina. 7. *Polygonum*-leaved Speedwell is, *Veronica floribus ſolitariis ſeſſilibus, foliis lanceolato-linearibus glabris obtuſis integerrimis, caule erecto.* Moriſon calls it, *Veronica terreſtris annua, folio polygoni, flore albo.* It grows naturally in fields and gardens in moſt countries of Europe.

CHAP. CCCXLIV.

VICIA, VETCH.

Species.

THE ſpecies which come of courſe under this head are,

1. The Bean Plant, including many varieties, but principally the Scarlet-bloſſomed Bean, and the White-bloſſomed Bean.
2. The Common Cultivated Vetch or Tare.
3. The Bithynian Vetch.
4. The Biennial Vetch.

The Bean Plant deſcribed.

1. The Bean Plant. There is no ſort of the Garden Bean which is not deſerving a place in any garden, were it only for the ſake of the flowers. They are in themſelves very beautiful, numerous, and adorn the ſtalk to a great height; and their refined fragrance ſtill raiſes their value. Among all the ſorts of theſe flowers, none is more valuable or beautiful than the Common Black-bloſſomed Bean, Horſe or Garden Bean; but as commonneſs too frequently excites neglect, ſo it is in this caſe: Their charms are unnoticed; they are cultivated in fields and kitchen-gardens only for uſe; whilſt the other ſorts, being leſs common, though of no greater beauty, are the only ſorts that attract our attention, and find a place in our flower-gardens.

Scarlet-bloſſomed Bean deſcribed.

The Scarlet-bloſſomed Bean has not been long known among us: It is ſuppoſed to have been brought at firſt from Ægypt. The ſingular appearance of its flowers cauſed it to be much ſought after; and as its encreaſe is very ſpeedy, it is now become pretty common. It is the Garden Bean in every reſpect: It riſes with the ſame kind of upright, firm ſtalk, with the ſame kind of leaves, and the flowers are produced in the ſame manner, and in as great penty; ſo that the difference only is in the colour of the flowers, theſe being of a fine red, ſcarlet, or purple colour, and making ſo ſingular, ſo new, and ſo fine a ſhow, as to merit a place in the flower-garden on their account ſolely.

Proper ſituation.

In order to ſhew them to advantage, the beſt way will be to have two or three rows planted on a long border by the ſide of ſome walks. In ſuch a ſituation their ſhow will be noble, the eye will be entertained during the time of their flowering, and the taſte by the ſeeds afterwards; for they are the Garden Bean, and very proper to join with a diſh of bacon. They are by many perſons ſaid to be excellent; but, in my opinion, they are rather inferior to our beſt ſort of beans for the table, their ſkins being rather tough.

Deſcription of White-bloſſomed Bean,

The White-bloſſomed Bean affords a variety only from the flowers being all white, and is preſerved in ſome gardens on that account. But as theſe flowers are of inferior beauty to any of the other ſorts of beans, a few of them only will ſuffice for that purpoſe. But what they fall ſhort of in beauty and ſhow, is amply recompenſed by the richneſs of their produce; for their beans are exceeding tender, boil green, and are ſuppoſed to be the fineſt of any that come to the table; on which account a double row of this ſort may be admitted on the oppoſite ſide of the walk. Thus variety will be formed by the flowers in the garden, and the taſte greatly regaled by their after-produce on the table.

and the Common Cultivated Vetch.

2. The Common Cultivated Vetch or Tare is mentioned here chiefly to introduce the title to the Gardener; for I would omit no opportunity of encouraging his purſuits in thoſe delightful paths of the ſcience. It is well known; and that is a cogent reaſon why it ſhould not be paſſed-by; for by being for the moſt part ready at hand, he may have opportunity of comparing the title with the characters. In countries where theſe plants are not much cultivated, a few ſeeds ſhould be ſown in ſome unfrequented part of the garden, for obſervation: Indeed, they will afford pleaſure in other reſpects where they are not too common; for their leaves and flowers are very beautiful, and even ſuperior to many Annuals in much eſteem. There are ſeveral varieties of this ſort; but thoſe that are moſt cultivated are,

Varieties.

The Purple Vetch.
The White Vetch.
The Early Summer Vetch, called the Rath or Pebble Vetch.

The Common Purple Vetch deſcribed.

The Common Purple Vetch is moſt eſteemed for fodder; though the White Vetch is a more ſucculent plant, and affords a greater abundance. The Summer Vetch is more tender, and of inferior value; but it ſuits beſt with ſome land, and in ſuch places it is preferred.

Culture.

The method of ſowing Vetches is well known to every huſbandman, viz. by the broad-caſt, two buſhels being generally allowed to an acre: But this rule is not ſtrictly to be adhered to; for ſome land will require more, whilſt others, of a richer nature, will afford a good crop with a leſs quantity. Some perſons recommend the ſowing of theſe ſeeds in drills, at a yard diſtance from each other. By this means, indeed, a great quantity of ſeeds may be ſaved; but the trouble of drilling, ſowing the ſeeds in this manner, covering them up, and earthing and weeding them afterwards, will call for a more than proportional expence, and cauſe more trouble than ſuch plants are worth. The Summer Vetch is always ſown in the ſpring, as being too tender to ſtand the winter. The others are frequently ſown in the autumn; and this is the beſt time to have them early the ſummer following, either to be cut for feeding of cattle, as is often practiſed; or to be ploughed-in for the improvement of the land, as is frequently done. When neither the one nor the other is intended, the beſt way will be to ſow them in the ſpring in the uſual ſeed-time, and you will be pretty ſure of a good crop at the uſual harveſt.

Bithynian Vetch deſcribed.

3. Bithynian Vetch. This, being a foreign plant, is admitted into gardens as a curioſity, though it has no greater beauty than the Common Vetch. The ſtalk is climbing, and near a yard long. The leaves are compoſed each of four lobes; they are oval, ſpear-ſhaped, and terminated by claſpers. The flowers grow ſingly from the upper parts of the ſtalk, are blue, will be in blow in June, and ripen their ſeeds in Auguſt.

Time of ſowing the ſeeds.

The ſeeds of this ſpecies may be ſown in the autumn or the ſpring.

Biennial Vetch deſcribed.

4. Biennial Vetch. This ſpecies will grow to be ſix feet high. The leaves are large, and compoſed of ſix, eight, or ten, and ſometimes twelve pair of lobes, which are ſmooth, ſpear-ſhaped, grow on furrowed footſtalks, and are terminated by tendrils or claſpers. The flowers grow in ſpikes from the wings of the ſtalks, having long footſtalks; they are of a pale-blue colour, will be in blow in July, and ripen their ſeeds in the autumn.

This plant is uſeful in none but the largeſt gardens, and there only with reſpect to the leaves, which look chearful, green, and reviving all winter, when moſt others are either drooping or decayed.

Proper ſituation.

Sow the ſeeds, therefore, in a row, in the ſpring, in ſome diſtant back-part of the garden, and the plants will come up, and all winter will have a chearful, refreſhing, green look. The ſummer following they will flower, and perfect their ſeeds in the autumn. As their ſtalks advance in length, they muſt be ſupported with ſticks, or they will trail on the ground, and look rambling and diſagreeable.

Its uſes and Culture.

This ſpecies has been much recommended for green fodder; and for this purpoſe it ſeems admirably adapted, as well as very ſerviceable to ſome ſorts of cattle in the winter, ſuch as new-milched cows, ewes that have lambs, ſurfeited horſes, &c. In order to raiſe quantities for theſe purpoſes, let the ground be well ploughed; and early in the ſpring ſow the ſeeds in rows at about four feet aſunder. As the plants advance in height, earth them up as you do garden-peaſe, and keep the whole clean from weeds. All the winter they will be very luxuriant, green and fine, and may be any time cut to increaſe the milk of cows, ewes, &c. by which they are much reliſhed.

The ſtalks will ſhoot out afreſh, and flower; but ſo weakly and late in the autumn, that there will be no certainty of obtaining good ſeeds from them: So that a certain ſpot ſhould always be left untouched, in order to have the plants flower ſtrong, and afford good ſeeds for a ſucceſſion.

Titles.

1. The Bean Plant is titled, *Vicia caule erecto, petiolis abſque cirrhis.* Caſpar Bauhine calls it, *Faba*; alſo, *Faba minor ſive equina*; and Dodonæus, *Bona, ſive phaſeolus.* It grows naturally in Ægypt. Faba.

2. The Common Vetch or Tare is titled, *Vicia leguminibus ſeſſilibus ſubbinatis erectis, foliis retuſis, ſtipulis notatis.* In the *Hortus Cliffort.* it is termed, *Vicia leguminibus erectis, petiolis polyphyllis, foliolis acumine emarginatis, ſtipulis denticulatis.* Caſpar Bauhine calls it, *Vicia ſativa vulgaris, ſemine nigro*; alſo, *Vicia ſativa alba*; alſo, *Vicia vulgaris, acutiore folio, ſemine parvo nigro*; alſo, *Vicia ſemine rotundo nigro.* Dillenius terms it, *Vicia folio anguſtiore, flore rubro.* It grows naturally in moſt parts of Europe. Sativa.

3. Bithynian Vetch is, *Vicia leguminibus pedunculatis ſolitariis erectis, foliolis quaternis ovali-lanceolatis, ſtipulis dentatis.* In the former edition of the *Species Plantarum* it is termed, *Lathyrus pedunculis unifloris, cirrhis tetraphyllis, ſtipulis dentatis.* In the *Amœnitates Academicæ* it is termed, *Lathyrus pedunculis unifloris, cirrhis tetraphyllis, ſtipulis ſetaceis, caule ancipiti.* Boerhaave calls it, *Clymenum Bithynicum, ſiliquâ ſingulari, flore minore.* It grows naturally in the fields of Italy and Bavaria. Bithynica.

4. Biennial Vetch is, *Vicia pedunculis multifloris, petiolis ſulcatis ſubdodecaphyllis, foliolis lanceolatis glabris.* In the *Hortus Upſal.* it is termed, *Vicia pedunculis multifloris, petiolis polyphyllis, foliolis lanceolatis glabris.* Magnol calls it, *Vicia perennis multiflora, flore cæruleo ex albo mixto.* It grows naturally in Siberia. Biennis.

CHAP. CCCXLV.

VIOLA, HEART's EASE.

Introduction.

HEART's EASE is a ſpecies of Violet, to which, was it not ſo extremely common, we ſhould be more attentive than we generally are, the colours being very perfect, very oppoſite, and in ſo great variety: Beſides, its being of very low, humble growth, and full of flowers, is by many perſons thought to be a very great additional recommendation of its worth. There are ſeveral ſorts of it, and it goes by various names in different places. It is called Heart's Eaſe, Panſy, Herb Trinity, Three Faces in a Hood, Live in Idleneſs, and Kiſs

Various names of this plant.

Kiſs behind the Garden-door. Theſe cant names have been in uſe time immemorial, and by one or other of them this plant is generally known. Its proper name is Violet *Tricolor*; the flowers, for the moſt part, being compoſed of three diſtinct and perfect colours.

Deſcription of it.

The leaves are of an oblong, oval figure, and their edges are deeply indented. The ſtalk is four-ſquared, ſpreading, and about half a foot long. The flowers grow from the wings of the ſtalks on moderately long, tender, naked footſtalks; they are uſually of the ſize of the Common Spring Violet, and their colours are various in the different varieties. The three reigning colours are purple, yellow, white, or blue; tho' ſometimes they are all yellow, or all purple, except a few ſpots, and the lower petals of a different tinge. The velvetry of ſome is beyond deſcription, and the largeneſs of others cauſes them to lay claim to preference; whilſt the ſmaller ſorts are often ſuperior in deepneſs and richneſs of colouring, and contend for ſuperiority.

They are poſſeſſed of little or no ſcent, though ſome have it in an higher degree than others. They will be in blow all ſummer, and continue ſo through the autumn, until the froſt ſtops them.

Culture.

In order to obtain good flowers of theſe ſorts, be careful, firſt of all, in the choice of your ſeeds. Mark ſome that are the largeſt, and have their colours the moſt oppoſite, the deepeſt, and in the greateſt perfection; and if they are poſſeſſed of any tolerable degree of fragrance, let that be another motive for your chuſing them. This being done, pull up all others that are near them, gather the ſeeds when they are ripe, and ſoon after ſow them in any intended ſpot. They will readily grow, and from that period you will never get rid of them; for they will afterwards ſcatter their ſeeds, come up all over the garden, and muſt be hoed down as weeds to keep them within bounds.

Titles. Tricolor.

The Violet *Tricolor*, or Heart's Eaſe, is titled, *Viola caule triquetro diffuſo, foliis oblongis inciſis, ſtipulis dentatis.* In the *Hortus Cliffort.* it is called, *Viola pedunculis caulinis angulatis, ſtipulis oblongis pinnato-dentatis, foliis ovato-oblongis crenatis.* Caſpar Bauhine mentions two ſorts of it; one he calls, *Viola bicolor arvenſis*; another, *Viola tricolor hortenſis repens.* Fuchſius terms it, *Trinitalis herba*; Renealme, *Viola tricolor*; and Camerarius, *Jacea, ſive flos Trinitalis.* It grows naturally in the North of England, and in moſt parts of Europe.

* * *

CHAP. CCCXLVI.

URTICA, NETTLE.

Species.

THE Annuals of this genus are,

1. Small Stinging Nettle.
2. Roman Nettle.
3. Balearick Nettle.
4. Dodart's Nettle.
5. Surinam Nettle.

Deſcription of Small Stinging,

1. Small Stinging Nettle. The ſtalks are thick, branching from the bottom, round, channelled, and two or three feet high. The leaves are oval, deeply ſerrated, of a ſtrong lively-green colour, and grow oppoſite to each other on footſtalks. The flowers come out in ſmall katkins from the wings of the leaves almoſt the whole length of the branches; they are of a green colour, having white antheræ, and appear at all times of the ſummer.

This is that Annual Nettle which is ſo common in kitchin-gardens, and which, after the ſeeds are ſcattered, is ſo difficult to eradicate totally.

Roman,

2. Roman Nettle. The ſtalks are thick, round, ſend out branches by pairs, and are cloſely guarded by ſharp, ſtinging hairs. The leaves are oval, ſerrated, and grow oppoſite to each other on longiſh footſtalks. The flowers come out in globular heads from the wings of the leaves almoſt the whole length of the branches; they are of a whitiſh-green colour, appear in July, Auguſt, and September, and the ſeeds ripen in the autumn.

Balearick,

3. Balearick Nettle. The ſtalks are thick, ſtinging, uſually purpliſh, ſend forth branches by pairs, and grow to be two or three feet high. The leaves are heart-ſhaped, ſerrated, and grow oppoſite to each other at the joints. The flowers come out in round heads or katkins from the wings of the leaves almoſt the whole length of the branches; they appear in July and Auguſt, and the ſeeds ripen in the autumn.

Dodart's,

4. Dodart's Nettle. The ſtalks are round, ſtinging, ſend forth branches by pairs, and grow to be two or three feet high. The leaves are oval, undivided on their edges, and grow oppoſite on ſlender footſtalks. The flowers come out from the wings of the leaves in globular heads, growing on ſhort, ſlender footſtalks; they are of a whitiſh-green colour, appear in July, Auguſt, and September, and the ſeeds ripen in the autumn.

and Surinam Nettle.

5. Surinam Nettle. The ſtalk is ſimple, and about a foot high. The leaves are heart-ſhaped, ſerrated, trinervous, and rough; the under-ones grow oppoſite, but the others are placed alternately. The flowers are produced in forked bunches from the wings of the leaves, and are of a greeniſh colour, having white antheræ; they appear in July and Auguſt, and the ſeeds ripen in the autumn.

Culture.

Theſe ſpecies are propagated by ſowing the ſeeds ſoon after they are ripe, or the ſpring following. When they come up, they will require no other culture than thinning them where they are too cloſe, and keeping them clean from weeds. They will then flower ſtrong, ſcatter their ſeeds, and maintain the ſucceſſion without further trouble.

Titles. Urens.

1. Small Stinging Nettle is titled, *Urtica foliis oppoſitis ovalibus.* In the *Hortus Cliffort.* it is termed, *Urtica androgyna, foliis ovalibus*; in the *Flora Lapp. Urtica foliis ovatis, amentis cylindricis androgynis.* Caſpar Bauhine calls it, *Urtica urens minor*; Dodonæus, *Urtica urens minima*;

and Gerard, *Urtica minor.* It grows naturally in gardens and cultivated fields in England and moſt countries of Europe.

Pilulifera. 2. Roman Nettle is, *Urtica foliis oppoſitis ſerratis, amentis fructiferis globoſis.* Caſpar Bauhine calls it, *Urtica urens pilulas ferens*; Dodart, *Urtica I. Dioſcoridis ſemine lini*; and Lobel, *Urtica Romana.* It grows naturally in moſt of the ſouthern countries of Europe.

Balearica. 3. Balearick Nettle is, *Urtica foliis oppoſitis cordatis ſerratis, amentis fructiferis globoſis.* Haller calls it, *Urtica pilulifera, foliis cordatis circumſerratis.* It grows naturally in India.

Dodartii 4. Dodart's Nettle is, *Urtica foliis oppoſitis ovatis ſubintegerrimis, amentis fructiferis globoſis.* Dodart calls it, *Urtica altera pilulifera, parietariæ foliis*; and Moriſon, *Urtica pilulifera, parietariæ facie, ſemine lini.* It is not certain where it grows naturally.

Æstuans. 5. Surinam Nettle is, *Urtica foliis alternis cordatis, racemis dichotomis, fructibus corymboſo-orbiculatis.* It grows naturally at Surinam.

CHAP. CCCXLVII.

XANTHIUM, LESSER BURDOCK.

THERE are three diſtinct ſpecies of this genus, called,

Species.
1. Common *Xanthium*, or Leſſer Burdock.
2. Oriental *Xanthium.*
3. Prickly *Xanthium.*

Deſcription of Common, 1. Common *Xanthium*, or Leſſer Burdock. The ſtalk is round, ſends forth branches from the ſides, is often ſpotted with black ſpots, and is about a foot and a half high. The leaves are heart-ſhaped, often cut into three lobes, are irregularly indented, acute-pointed, and grow on ſlender footſtalks. The flowers are produced from the ends of the branches in looſe ſpikes; they are of an herbaceous colour, appear in July, and the ſeeds ripen in the autumn.

Oriental, 2. Oriental *Xanthium.* The ſtalk is round, thick, hairy, branching, and near a yard high. The leaves are oval, irregularly ſerrated on the edges, trinervous, and the largeſt are ſometimes divided into three or five lobes. The flowers are produced in ſpikes from the ends of the branches, and are like the former; they appear in July, and are ſucceeded by burs three times as large, which contain ripe ſeeds, in the autumn.

and Prickly Xanthium. 3. Prickly *Xanthium.* The ſtalk is thick, round, branching, armed with long, ſharp, triple thorns, and about a yard high. The leaves are oblong, pointed, indented on the edges, and grow on ſhort footſtalks. The flowers come out two or three together along the ſides of the branches; they appear in July and Auguſt, and the ſeeds ripen in the autumn.

Method of propagation. The firſt ſort is raiſed by ſowing the ſeeds in the autumn, ſoon after they are ripe, or the ſpring following, in the places where they are to remain. After the plants come up, they will require no trouble, except thinning them where they are too cloſe, and keeping them clean from weeds.

The others may be alſo raiſed in the ſame manner, but they ſhould be ſown in ſome dry, ſandy, gravelly, or rubbiſhy part of the garden; otherwiſe they will grow luxuriant, flower late in the autumn, and rarely perfect their ſeeds.

For want of ſuch a ſituation, ſome plants ſhould be raiſed on a hot-bed to bring them forward; and when they are fit to remove, they ſhould be planted out, mixing ſome rubbiſh, gravel, or the like, with the under-mould of the place, to ſtop their luxuriancy; which check will cauſe them to produce more flowers, and with greater certainty to perfect their ſeeds.

Titles. Strumarium. 1. The firſt ſpecies is titled, *Xanthium caule inermi, foliis cordatis trinervatis.* Fuchſius calls it ſimply, *Xanthium*; Caſpar Bauhine, *Lappa minor, ſ. Xanthium Dioſcoridis*; John Bauhine, *Xanthium, ſeu Lappa minor*; and Gerard, *Bardana minor.* It grows naturally in England, and moſt countries of Europe.

Orientale. 2. The ſecond ſpecies is titled, *Xanthium caule inermi, foliis cuneiformi-ovatis ſubtrilobis.* Moriſon calls it, *Xanthium elatius majus Americanum, fructu ſpinulis ad uncis munito*; Herman, *Xanthium majus Canadenſe*; and Ray, *Lappa Canadenſis minori congener, ſed procerior.* It grows naturally in China, Japan, and Ceylon.

Spinosum. 3. The third ſpecies is, *Xanthium ſpinis ternatis.* In the *Hortus Cliffort.* it is termed, *Xanthium ſpinis triplicibus.* Moriſon calls it, *Xanthium ſpinoſum, atriplicis folio*; and Plukenet, *Xanthium Luſitanicum ſpinoſum.* It grows naturally in Portugal, and the South of France.

Claſs and order in the Linnæan Syſtem. *Xanthium* is of the claſs and order *Monoecia Pentandria*; and the characters are,

The characters.

I. Male Flowers.

1. Calyx. The common calyx is imbricated, the ſcales being ſlender, the length of the florets, and equal.

2. Corolla. The compound flower is uniform, tubular, equal, and of a globular figure. The florets have each one tubular, funnel-ſhaped, erect petal, cut at the top into five ſegments.

3. Stamina are five filaments, forming a tubular cylinder, having erect, parallel, diſtinct antheræ.

The receptacle is ſmall, and paleaceous.

II. Female Flowers below the Males on the ſame Plant.

1. Calyx is an involucrum, formed of two trilobed leaves, placed oppoſite to each other, and containing two flowers.

2. Corolla. There is none.

3. Pistillum conſiſts of an oval, hiſpid germen, and two capillary ſtyles, with ſimple ſtigmas.

4. Pericarpium is a dry, oval, oblong, berry, bifid at the top, and on every ſide covered with hooked prickles.

5. Semen is a nut, containing two cells.

CHAP. CCCXLVIII.

XERANTHEMUM, AUSTRIAN SNEEZEWORT, or ETERNAL FLOWER.

THERE is only one Annual of this genus, called, Annual *Xeranthemum*, or Auſtrian Sneezewort.

The plant deſcribed. The ſtalk is herbaceous, angular, furrowed, downy, branching, and about two feet and a half high. The leaves are ſpear-ſhaped, hoary, ſpreading, and ſit cloſe to the ſtalk. The flowers come out ſingly from the ends of the branches; they are of different colours in the different varieties; they appear in July, Auguſt, and September; and the ſeeds ripen in the autumn.

Varieties. The principal varieties are,

The Great Double Violet-coloured,
The White,
The Purple,
The Purple and White with Double Flowers.

All theſe are in great eſteem for their durable beauty. If the flowers are gathered in dry weather, and properly dried, they will retain their beauty for many months, and may be made very ornamental to rooms, &c. in winter, when few other flowers are to be met with.

Culture. The plants are propagated by ſowing the ſeeds in the autumn, ſoon after they are ripe, or the ſpring following; the former of which is preferable, if the ſituation be warm, and well-defended, becauſe ſuch plants will flower earlier, ſtronger, and the flowers will be larger than thoſe raiſed in the ſpring.

In either caſe, when the plants are fit to remove, a ſhare of them muſt be drawn out to make room for the others; and theſe may be planted in beds at a foot aſunder, or ſtationed at random in the different parts of the garden, for they all bear removing very well. When they are ſet out, they muſt be watered at firſt, and kept ſhaded; and after they have taken root, and ſhewn ſigns of a good growth, they will require no trouble, except keeping them clean from weeds.

Titles. This ſpecies is titled, *Xeranthemum herbaceum, foliis lanceolatis patentibus, caule herbaceo.* In the *Hortus Cliffort.* it is termed, *Xeranthemum receptaculis paleaceis, ſeminum pappo quinqueſeto.* Cluſius calls it, *Ptarmica Auſtriaca*; Haller, *Xeranthemum capitulis inapertis*; Tournefort, *Xeranthemum orientale, fructu maximo*; Moriſon, *Xeranthemum, oleæ folio, capitulis ſimplicibus incanis non fœtens, flore majore violaceo*; alſo, *Xeranthemum, oleæ folio, capitulis ſimplicibus, incanum fœtens, flore purpuraſcente minore*; and Caſpar Bauhine, *Jacea oleæ folio, capitulis ſimplicibus*; alſo, *Jacea oleæ folio, minore flore*; alſo, *Jacea oleæ folio, capitulis compactis*; alſo, *Jacea incana, cyani capitulis.* It grows naturally in Auſtria, Helvetia, France, and Italy.

Annu=
=um.

Claſs and order in the Linnæan Syſtem. *Xeranthemum* is of the claſs and order *Syngeneſia Polygamia Superflua*; and the characters are,

The characters. 1. CALYX. The general calyx is compoſed of many ſpear-ſhaped, long, membranaceous, gloſſy ſcales.

2. COROLLA. The general flower is unequal. The hermaphrodite florets are many in the diſk: The females are fewer in the circumference. Each hermaphrodite floret has one funnel-ſhaped petal, which is much ſhorter than the calyx, and divided at the top into five ſpreading ſegments.

The female florets are tubular, the length of the hermaphrodites, and cut into five leſs, equal ſegments.

3. STAMINA of the hermaphrodites are five very ſhort filaments, with a cylindrical tubular anthera, which is nearly as long as the floret.

4. PISTILLUM of the hermaphrodites conſiſts of a ſhort germen, a filiforme ſtyle longer than the ſtamina, and a bifid ſtigma.

In the females, it conſiſts of a ſhort germen, a filiforme ſtyle the length of the hermaphrodites, and two oblong, reflexed ſtigmas.

5. PERICARPIUM. There is none.

6. SEMINA of the hermaphrodites are coronated and oblong.

The females are ſimilar to thoſe of the hermaphrodites.

The receptacle is naked, ſomewhat plane, and punctated.

CHAP. CCCXLIX.

ZANNICHELLIA, TRIPLE-HEADED, or HORNED POND-WEED.

THERE is only one ſpecies of this genus, commonly called Horned Pond-weed.

The plant deſcribed.

The root is compoſed of many long, ſlender, whitiſh fibres. The ſtalk is round, ſlender, jointed, weak, and eight or ten inches high. The leaves are graſſy, three or four inches long, of a duſky-green colour, and grow ſingly at the joints. The flowers come out from the wings of the ſtalk; they are ſmall, of a whitiſh colour, appear in July, and the ſeeds ripen in September.

Culture.

This plant is an inhabitant of ſtanding waters and rivers in moſt countries of Europe, and is not propagated; but it may nevertheleſs be obtained by throwing the ſeeds into ſome ditch or waters in the autumn, ſoon after they are ripe.

Titles:

Palustris.

There being no other ſpecies of this genus, it is named ſimply, *Zannichellia*. Vaillant calls it, *Algoides vulgaris*; Micheli, *Zannichellia paluſtris major, foliis gramineis*; Caſpar Bauhine, *Potamogeton capillaceum, capitulis ad alas trifidis*; and Plukenet, *Potamogetoni ſimilis graminifolia ramoſa et ad genicula polyceratos*. It grows naturally in ditches, ſtanding waters, and rivers, in England, and moſt countries of Europe; alſo in Virginia.

Claſs and order in the Linnæan Syſtem. The characters.

Zannichellia is of the claſs and order *Monoecia Monandria*; and the characters are,

I. Male Flower.

1. CALYX. There is none.
2. COROLLA. There is none.
3. STAMINA are one long, ſimple, upright filament, and an oval, erect anthera.

II. Female cloſe to the Male Flower.

1. CALYX is a very ſmall, monophyllous, ventricoſe perianthium, indented in two parts at the brim.
2. COROLLA. There is none.
3. PISTILLUM conſiſts of four corniculated, connivent germens, and the like number of ſimple, patent ſtyles, with oval, plane, patent ſtigmas.
4. PERICARPIUM. There is none.
5. SEMINA. The ſeeds are four, oblong, pointed at both ends, gibbous on one ſide, covered, curved, and reflexed.

* * *

CHAP. CCCL.

ZEA, INDIAN, or TURKEY WHEAT.

THERE is only one ſpecies of this genus, commonly called Indian Wheat.

The plant deſcribed.

The ſtalk is upright, firm, an inch or more in diameter, and ten or twelve feet high. The leaves are long, keeled, pointed, numerous, and of a bright-green colour. The flowers come out in ſpikes from the tops of the ſtalks; they are whitiſh, and are ſucceeded by the grain, arranged in very long, thick ears or ſpikes, which ripen in the autumn.

Varieties.

The principal varieties of this ſpecies are,

The Yellow Indian Corn,
White Indian Corn,
White and Yellow,
Violet-coloured,
Red,
Black,
Blue.

The moſt common are Yellow, and the Yellow and White, though the others are frequent; and the different colours are often blended together in the ſame ſpikes.

Culture.

They are all raiſed by ſowing the ſeeds in the ſpring, in beds of light, ſandy earth; and when they come up, they will require no trouble, except keeping them clean from weeds, and protecting them with ſtakes from the winds, if the ſituation be open.

In light, ſandy earth the ſeeds ripen very well in England; but in ſtrong, rich, deep ſoils, they for the moſt part grow luxuriant, and the ſeeds rarely come to perfection.

This grain affords a coarſe kind of bread, for which purpoſe it is cultivated in America, and in ſeveral parts of Europe. In England it is ſeldom raiſed but for the ſake of curioſity; neither is its culture, as an article of huſbandry, though recommended by ſome authors, worth putting into practice.

Titles

Mays.

There being no other ſpecies of this genus, it is named ſimply, *Zea*. Caſpar Bauhine calls it, *Frumentum Indicum Mays dictum*; and Cammerarius, *Frumentum Indicum*. It grows naturally in America.

Zea is of the claſs and order *Monoecia Triandria*; and the characters are,

I. The Male Flowers are diſpoſed in a looſe ſpike.

1. Calyx is a glume compoſed of two oval, oblong, beardleſs valves, containing two flowers.

2. Corolla conſiſts of two oblong, beardleſs valves, the length of the calyx. The nectariums are two, very ſhort, and compreſſed.

3. Stamina are three capillary filaments, with quadrangular antheræ, containing four cells, and opening at the top.

II. The Female Flowers are below the Males, and form a very thick ſpike, which is covered with leaves.

1. Calyx. The glume is compoſed of two thick, roundiſh, ſhort ſcales; the exterior one being of a thicker ſubſtance than the other.

2. Corolla conſiſts of two membranaceous, broad, very ſhort, permanent valves.

3. Pistillum conſiſts of a ſmall germen, a very long, filiforme ſtyle, and a ſimple ſtigma.

4. Pericarpium. There is none.

5. Semen. The ſeed is ſingle after each flower, roundiſh, angular at the baſe, and compreſſed.

The receptacle is large, long, and excavated; and the ſeeds are ſunk in it up to the middle.

CHAP. CCCLI.

ZINNIA.

OF this genus there is one noted Annual, called *Zinnia.*

The plant deſcribed. The ſtalks are upright, taper, hard, ligneous, branching, and three or four feet high. The leaves are cordated, ſpear-ſhaped, entire, ſmooth, grow oppoſite by pairs, and embrace the ſtalk with their baſe. The flowers come out ſingly from the ends of the branches; they are of a yellow colour, and remain permanent until the ſeeds are ripe; they appear firſt in July and Auguſt, and the ſeeds ripen in the autumn.

Culture. This plant is propagated by ſowing the ſeeds on a hot-bed in the ſpring. When the plants come up, they muſt have as much air as the weather will permit, and be frequently watered. When they are fit to remove, each plant ſhould be ſet in a ſeparate pot, which muſt be plunged up to the rim in a freſh hot-bed. They muſt be ſhaded and watered at firſt, be inured by degrees to the open air, and afterwards turned out of the pots, with the mould at the roots, into ſome warm, rich, well-ſheltered border, where they will flower ſtrong, and in favourable ſeaſons perfect their ſeeds.

Titles. Pauci-flora. This ſpecies is titled, *Zinnia floribus paucis.* In the former edition of the *Species Plantarum* it is termed, *Chryſozomum foliis ſeſſilibus amplexicaulibus, calycibus ſeſſilibus ſquamoſis*; in Miller's Dictionary, *Bidens calyce oblongo, ſeminibus radii corollâ non deciduâ coronatis.* Zinn calls it, *Rudbeckia foliis oppoſitis*; and Hill, *Lejica.* It grows naturally in Peru.

Zinnia is of the claſs and order *Syngeneſia Polygamia Superflua*; and the characters are,

1. Calyx. The general calyx is oval, cylindrical, ſmooth, and imbricated; the ſcales being many, obtuſe, erect, and permanent.

2. Corolla is compound and radiated. The hermaphrodite florets are many in the elevated diſk, and each conſiſts of one funnel-ſhaped petal, which is hairy on the inſide, and cut at the brim into five ſegments.

The female flowers in the radius have each one tongue-ſhaped, roundiſh, large, retuſed, permanent petal.

3. Stamina of the hermaphrodites are five very ſhort filaments, having a cylindrical, tubular anthera.

4. Pistillum of the hermaphrodites conſiſts of an oblong, ariſtated germen, a filiforme ſemibifid ſtyle, and two erect, obtuſe ſtigmas.

In the females it conſiſts of an oblong, three-ſided, beardleſs germen, a capillary, ſemi-bifid ſtyle, and two recurved ſtigmas.

5. Pericarpium. The ſeeds are contained in the calyx.

6. Semen of the hermaphrodites is ſingle, oblong, ſquare, and crowned with a two-pointed down.

Of the females the ſeed is ſingle, poſſeſſed of no down, but crowned by the permanent petal.

The receptacle is paleaceous. The paleæ are tongue-ſhaped, canaliculated, deciduous, and the length of the calyx.

CHAP. CCCLII.

ZIZIPHORA, SYRIAN FIELDBASIL.

THERE are four diſtinct ſpecies of this genus, called,

Species.
1. Common Syrian Field Baſil.
2. Capitated Syrian Field Baſil.
3. Spaniſh Field Baſil.
4. Siberian Field Baſil.

Deſcription of Common Syrian, 1. Common Syrian Field Baſil. The ſtalks are ligneous, ſlender, firm, and eight or ten inches high. The leaves are ſpear-ſhaped, ſmooth, even on the edges, and have the ſcent of Summer Savory. The flowers come out from the wings of the leaves on each ſide the ſtalks; they are ſmall, of a reddiſh-purple colour, appear in June, July, and Auguſt, and the ſeeds ripen in September.

Capitated Syrian, 2. Capitated Syrian Field Baſil. The ſtalks are ſquare, ſend out branches by pairs from the ſides, and grow to be five or ſix inches high. The leaves are oval, pointed, broad, and ſtand oppoſite to each other. The flowers come out in roundiſh heads from the tops of the ſtalks, ſurrounded with leaves; they are ſmall, and of a purpliſh colour; they appear in June, July, and Auguſt; and the ſeeds ripen in September.

Spaniſh, 3. Spaniſh Field Baſil. The ſtalks are upright, ſlender, and about eight or ten inches high. The leaves are oval, pointed, and finely ſcented. The flowers come out in looſe ſpikes from the tops of the ſtalks; they appear about the ſame time with the former, and the ſeeds ripen accordingly.

and Siberian Field Baſil. 4. Siberian Field Baſil. The ſtalks are weak, and trailing. The leaves are oval, hoary, and agreeably ſcented. The flowers are produced from the wings of the leaves along the ſides of the ſtalks; they are ſmall, and of a purpliſh colour, appear in July and Auguſt, and the ſeeds ripen in the autumn.

Culture. All theſe plants are propagated by ſowing the ſeeds in the autumn, ſoon after they are ripe, or the ſpring following, in the places where they are to remain; and after the plants come up, they will require no trouble, except thinning them where they are too cloſe, and keeping them clean from weeds. When they have flowered, and the ſeeds ſcattered, plants enough for a ſucceſſion will ariſe, which are generally better plants, will flower earlier, and perfect their ſeeds ſooner the ſummer following, than ſuch as have been raiſed by art.

Titles. 1. The firſt ſpecies is titled, *Ziziphora floribus lateralibus, foliis lanceolatis.* In the *Hortus Cliff.* it is termed, *Ziziphora foliis lanceolatis, floribus ex alis.* Van Royen calls it, *Ziziphora foliis lanceolatis, floribus lateralibus*; and Moriſon, *Acinos Syriaca, folio mucronato, capſulis hirſutis.* It is ſuppoſed to grow naturally in Syria. Tenuior.

2. The ſecond ſpecies is, *Ziziphora capitulis terminalibus, foliis ovatis.* Van Royen calls it, *Ziziphora foliis lanceolatis, floribus terminatricibus*; Plukenet, *Clinopodium fiſtuloſum pumilum Indiæ Occidentalis, ſummo caule floridum*; and Buxbaum, *Thymus humilis latifolius.* It grows naturally in Syria and Armenia. Capitata.

3. The third ſpecies is, *Ziziphora foliis ovatis, floribus racemoſo-ſpicatis, bracteis obovatis nervoſis acutis.* It grows naturally in Spain. Hispanica.

4. The fourth ſpecies is, *Ziziphora floribus lateralibus, foliis ovatis.* Amman calls it, *Clinopodium ſupinum incanum.* It grows naturally in Siberia. Acinoides.

Ziziphora is of the claſs and order *Diandria Monogynia*; and the characters are,

1. Calyx is a monophyllous, tubular, cylindrical, very long, hiſpid, ſtriated perianthium, indented in five points at the top.

2. Corolla is one ringent petal. The tube is cylindrical, and the length of the calyx. The limb is ſmall. The upper lip is oval, whole, and reflexed. The under lip is more broad, patent, and divided into three rounded, equal ſegments.

3. Stamina are two ſimple, patent filaments, nearly the length of the corolla, having oblong, diſtinct antheræ.

4. Pistillum conſiſts of a quadrifid germen, a ſetaceous ſtyle the length of the corolla, and an acuminated, inflexed ſtigma.

5. Pericarpium. There is none. The ſeeds are in the calyx.

6. Semina. The ſeeds are four, oblong, obtuſe, gibbous on one ſide, and angular on the other.

A COM-

A

COMPLETE BODY

OF

PLANTING and GARDENING.

BOOK IV.

PART II.

Of the GREEN-HOUSE and GREEN-HOUSE PLANTS.

Introduction.

OUR hills and valleys are now bedecked with the different kinds of Timber-trees: Not only our own, but thoſe of foreign growth are made to join in our plantations, affording profit as well as pleaſure to the induſtrious owner. The Curious may find the hardy ſorts of Shrubs and Trees, both Evergreen and Deciduous, in our Wilderneſs-quarters, or ſome part or other of our extenſive works; whilſt the humbler plants, ſuch as Perennials and Annuals, ſtill more deſigned for obſervation and pleaſure, are found growing in their native eaſe, in the different apartments allotted them in the garden.

Of the Green-houſe.

The Green-houſe is intended to add ſtill farther to our collection, and to contain ſuch tender plants as cannot endure the roughneſs of our blaſts, but ſink under the firſt approaches of our winter-froſts. Theſe are no very inconſiderable part of the creation; they conſiſt of thoſe plants that grow naturally in the warmer parts of the world, though not in the hotteſt regions; ſo that they require only the common protection from our winter colds. In this conſervatory they find it; whilſt the plants from the hotteſt parts of Africa and America are made to glow with their native beauty in our ſtoves; ſo that in our woodlands, and in our hotteſt ſtoves, may be found the different produce of the whole earth. The wonders of the Almighty in the vegetable creation may be here collected, and his wiſdom ſtill more and more diſplayed by the proper exhibition even of the ſeemingly moſt inſignificant of them; an employment truly becoming a good man, as well as ſuitable to the practice of the wiſeſt men in all periods of the world, from the earlieſt time to the preſent age.

Conſtruction of the Green-houſe.

In order, therefore, to conſtruct a proper Green-houſe for theſe purpoſes, the firſt thing to be attended to is the ſituation. The aſpect ought to be full upon the ſouth, the ground ſhould be riſing and dry, no large trees ought to be very near, and the ſmaller the diſtance is from the houſe the better.

Such a ſpot, however, for the Green-houſe cannot always be had; and when it happens that the ſituation is low and moiſt, the ground muſt be raiſed at leaſt three feet above the common level. This riſe will give an air to the building, and keep the houſe dry, by having the floor of it a yard above the common ſurface of the ground; and the more effectually to enſure it, the riſing ground ſhould be made with as hard and dry materials as poſſible, ſuch as broken bricks, ſlates, chippings of free-ſtone, ſand, lime, rubbiſh, &c. If the ſituation is naturally dry and warm, the floor of the houſe ought nevertheleſs to be raiſed two feet above the common level, to give an air to the building. In a very moiſt place, ſmall brick arches are often uſed, raiſed through the whole, on which to lay the floor; but if the above dry and hard materials can be obtained, it will enſure the plants ſafety from the danger of damps, &c. much better.

At the time of laying the foundation for a Green-houſe, a fire-place ſhould be made at the upper end of the back part of it, and a flue one foot wide and two feet deep ſhould go thro' the whole houſe, at about a yard diſtance from the front, the ſame from the end, and which ſhould return along the back part, at about two feet and a half from the wall. This vent ſhould be by two ſmall funnels near the fire-place, in the back-part of the houſe; and this is directed for the purpoſes hereafter to be mentioned.

With regard to the ſize of the houſe, no laws can be given for it: It depends upon the number of plants to be contained, or the taſte of the owner. For a man of ſmall fortune, who is deſirous of indulging his taſte only in Myrtles, *Geraniums*, *Oleanders*, and others of the common Green-houſe plants, a ſmall houſe may be ſufficient for the purpoſe; but when the collection is large and extenſive, the Green-houſe ought to be proportionally larger; nay, it ought to conſiſt of three diviſions, or be compoſed of three parts, in which plants of different degrees of tenderneſs and oppoſite qualities may be ſtationed, according to their natures; for whereas protection only from a hard froſt will be ſufficient to enſure the ſafety of one plant, another muſt be kept exceedingly warm, or it will ſhrink on the firſt approach of our common colds. Succulent plants alſo, ſuch as *Sedums*, *Euphorbiums*, &c. ought not to mix with Myrtles, *Geraniums*, &c. ſo that in order to have proper lodgings for the different kinds, a Green-houſe for an extenſive collection ought to conſiſt of three different parts at leaſt, which may be ſufficient to anſwer all thoſe purpoſes.

Proper Height and Breadth of the Green-houſe.

Notwithſtanding the ſize of a Green-houſe cannot be aſcertained or fixed to one ſtandard, for the above reaſons; yet there are certain laws reſpecting its breadth and height, which are generally obſerved. The height of the inſide of a large houſe is generally twenty feet, and the breadth eighteen feet; for by this proportion there will be room to diſpoſe your plants to advantage, and afford the Gardener room to perform the neceſſary operations of his office. In a ſmaller houſe, however, the breadth and height may be contracted; and if fifteen feet be allowed for the breadth, and ſeventeen or eighteen for the height to the cieling, it may be ſufficient.

Having thus raiſed our Green-houſe from the foundation to above the level of the floor, the back-part muſt be carried up with an upright, uninterrupted, ſtrong wall, leaving only a ſmall door-place for the Gardener to enter into the houſe in bad weather. The materials ſhould be the hardeſt, well-burnt bricks, and the walls two bricks length thick, even though a tool-houſe, as is cuſtomary, be erected behind it. If no tool-houſe or ſhed be permitted there, the back wall ought to be no leſs than three bricks length in thickneſs, or it can hardly be ſuppoſed to be powerful enough to guard the plants with ſufficient warmth.

Directions for the thickneſs of the Walls,

The front of the houſe is to have as much glaſs as poſſible, ſo that the wall there ſhould not be raiſed above ten inches or a foot high. On this the windows are to be placed, and they muſt be made to reach up as near the cieling as poſſible.

Height, &c. of the Piers,

The piers between the windows ſhould be built of the beſt burnt, hardeſt, and fineſt bricks; they muſt be raiſed ſix or ſeven feet diſtant from each other, according to the ſize of the houſe; let them be built as narrow, though as firm, as poſſible; and no thicker than what is juſt neceſſary to ſupport the roof, and afford ſteady play to the ſaſhes. Two feet and a half will be a proper thickneſs for them in front, even ſhould the ſaſhes be ſeven feet wide; and if they are but five feet and a half or ſix feet in width, two feet for the piers will be ſufficient. The largeſt pier ſhould be ſloped off inwards, to about fourteen inches, and the ſmaller to about a foot; then will the rays of the ſun have free admittance, and not ſuffer that obſtruction from the angles they would otherwiſe ſuſtain. The frames for the ſaſhes muſt be let-in with all care: Theſe ſhould be the ſoundeſt heart of oak; and the ſaſhes muſt be made to move freely, but nevertheleſs ſo cloſely fitted to their place, as to be incapable of being moved by the winds, or of admitting any cold.

The wood-work ſhould be the ſame as in common ſaſhes, but you cannot well have the panes of glaſs too large, or too few in number.

and ſituation of the Doors.

With regard to the ſituation of the doors, that depends upon the taſte of the owner. Some chuſe double-folding glaſs doors in the middle of the front; others, a ſtrong oak pannelled one at each end of the front ſide, that one door may anſwer to the other, and preſerve uniformity; whilſt others, again, allow of no door but what is in the back wall, through the tool-houſe. Doors in the front certainly afford many advantages to the Gardener, being very convenient for the introducing and taking out of the plants; but they will always be inſufficient for the plants defence in very bad weather: The ſafeſt way will be to have one door only near the weſt end of the back wall, thro' the tool-houſe. Here a perſon may enter with ſafety at any ſeaſon; and on turning the corner, his imagination is immediately ſtruck with the grandeur of the whole range of plants, which will at once preſent itſelf to his view the whole length of the houſe.

An houſe or ſhed behind the back wall may be erected, not only becauſe it will keep the houſe warm, and anſwer many purpoſes to the Gardener, but becauſe rooms over the Green-houſe are abſolutely forbid. One deſign of a Green-houſe, beſides protecting tender plants, is to add an air of gaiety to the garden; it is reckoned one of the public buildings of the place, and ought to be made light and eaſy, and not incumbered with the ponderous weight of uſeleſs rooms, &c.

In order, therefore, the more effectually to keep out the cold, let a good thickneſs of ſaw-duſt be laid over the cieling, and let this be covered with a coat of mortar. If this is laid a foot and a half thick, covered with a coat, and the whole roof well ſlated, it will more effectually keep out the cold than any room whatever, unleſs the ſame precaution is uſed, between the floor and the cieling.

Rules for the Inſide-work,

Thus have we raiſed our Green-houſe, with a ſhed behind it, from the bottom to the top. Let us now proceed to the inſide work, which chiefly reſpects the preſervation and health of the plants.

The flues,

The flues, which were before directed to be made, are deſigned very rarely to be uſed; nothing but the moſt intenſe froſt ſhould induce us to put them into motion; unleſs now-and-then on ſlighter occaſions, ſuch as to rarefy the air in cold thaws, diſpel damps, fogs, &c. and indeed nothing but ſuch weather will make it neceſſary. A Green-houſe thus conſtructed, with good ſhutters to the windows, will keep out very hard froſts, and indeed much harder froſts than happen in the generality of our winters; ſo that this flue is deſigned to preſerve the plants from total ruin, when a moiſt ſevere winter threatens their deſtruction. And this it will effectually do, without the endleſs trouble of nailing mats, or the more dangerous practice of burning charcoal, and ſtill more ridiculous and ineffectual method of lighting candles.

A flue, therefore, once built, is ever ready to enſure the ſafety of the plants, whether it be from hard froſts or damps, which ſometimes prove equally deſtructive; and being provided with one at firſt, we may afterwards diſclaim all uſe of fires of what kind or nature ſoever among the plants in the houſe.

Pavement, Windows, Shutters,

The pavement of the houſe ſhould be made of large, ſquare tiles. The windows ſhould have good, ſtrong ſhutters, made to fold back by hinges, in ſuch a manner, that falling on the piers, the rays of the ſun may be obſtructed as little as poſſible.

and Walls.

The walls ſhould be well plaiſtered and white-waſhed, which will be ſufficient; though ſome are at the unneceſſary expence of firſt wainſcoting and painting it white, then laying it over with ſtucco, and painting that white. When the Green-houſe is intended to ſerve the purpoſe of a ſummer-houſe, as is often the caſe, after the plants are removed out of it, theſe expences ought to be complied with; but when no ſuch thing is intended, all redundant charges ſhould be avoided, as the expence attending the proper management of theſe plants will be great enough: For both paint and wainſcot will be loſt on the viſitors of the place, as the diſpoſition of the plants will intercept the view of the back wall of the houſe, ſo as to cauſe it to be unnoticed, or unimportant whether the white, which is to be the ground for the ſhades of the plants, be of paint or a good white-waſh. Beſides, the fineſt white paint ſoons becomes yellow; and as it is allowed that a white ſurface ſends back the light, and conſequently the heat in the fulleſt manner, a good, ſmooth white-waſh muſt be preferable, as the purity of the colour will be ſuperior to any paint, its continuance longer, and, upon its fading, may be renewed at very little expence or trouble.

Directions for placing and building the Wings.

The wings of the houſe are the next thing to be conſidered. Theſe are deſigned to keep the plants of different natures, and different degrees of tenderneſs, ſeparate, and cauſe them all to flouriſh in their own proper apartments. The ſucculent plants ſhould always be kept by themſelves, as well as thoſe tender plants, which will but juſt live without a ſtove; while thoſe trees and plants which require only protection from froſts and bad weather, ſhould occupy their apartment in one common community.

The main body of the Green-houſe is deſigned for the largeſt and moſt hardy ſorts; whilſt the ſucculent and moſt tender may be ſtationed in the wings.

Theſe wings may be built in the ſame manner, and in an exact line with the Green-houſe; or they may be thrown a little back. If Gardening is not carried on in its full extent, and no ſtoves are to be erected for the ſtill more tender plants, the half-roof may be of glaſs, to be covered over with ſhutters and cloths in bad weather; and theſe, with the aſſiſtance of the flue, may be made to anſwer all the purpoſes of the dry-ſtove. Whoever has a mind to introduce ſeveral ſtove plants into this apartment, let him wait for the direction to be given for the ſtove, and then place the wings accordingly.

At preſent we will ſuppoſe, that the curious Horticultor is deſirous of cultivating in the Green-houſe, and in the two wings belonging to it, ſuch plants only as are deemed Green-houſe plants, or thoſe that will live in theſe countries without artificial heat.

In the Green-houſe, therefore, let the hardieſt plants be arranged; in the eaſt wing the tendereſt, or thoſe that will but juſt live without the aſſiſtance of a ſtove. If this wing is built in a right line with the Green-houſe, let a large window, or as much glaſs as poſſible, be at the end; and if it is thrown a little back, it will have the farther advantage, by having a ſouth-eaſt expoſure, of receiving the early rays of the ſun, which will exhilarate the plants, and ſo warm the air, that with good management, and keeping it properly cloſed in evenings, this wing will have different degrees of warmth to any of the other buildings, and conſequently be more adapted to the nature of ſuch plants as will but juſt live without a ſtove. A flue muſt be built for this as in the main Green-houſe, to be uſed only when ſevere weather makes it neceſſary; and a building in the like manner muſt be erected behind it, to be uſeful to the Gardener, keep the cold from the houſe, and become a ſhed to the fire-place.

A flue and a back building alſo for the weſt wing, where the ſucculent plants are deſigned to be kept, muſt be built in the like manner; and in theſe three apartments a very large ſhare of the tender part of the vegetable creation may be preſerved; and the proper management of theſe, together with thoſe that are deemed ſtill more tender, called Stove plants, is the niceſt article in Gardening.

Diſpoſition of the Plants.

Having thus erected our Green-houſe, with the two wings, let us proceed next to the diſpoſition of the plants. And here, care muſt be had, in the firſt place, to make the moſt curious plants the moſt conſpicuous. They muſt be ſo ſituated, that the eye will be ſure to catch them; for one deſign of theſe places is to diſplay the beauties of the vegetable world; and without paying ſtrict attention to this rule, a plant that is perhaps one of the greateſt beauties or curioſities in nature, may be paſſed by unnoticed, by being placed obſcurely among the leaves and branches of taller trees and plants.

The Succulent plants muſt be kept by themſelves, and the moſt tender in the warmeſt wing of the houſe; but beſides theſe, there are others of different degrees of tenderneſs in the principal Green-houſe, which muſt be placed as much as can be ſuitably to their natures. The moſt hardy ſhould always be placed in the coldeſt places, while the warmeſt ſtations ſhould be allotted to thoſe that are more tender. Great regard alſo ſhould be had to the different ſhades of the plants, ſo as to form a moſt delightful mixture of colours. Some are of a deep-green, others pale; ſome brown, bluiſh, and reddiſh, others hoary in different degrees; and no inconſiderable ſhare are in a manner white. Theſe colours, and their different tints, are to be ſo diſpoſed as to ſhew themſelves as much as poſſible to advantage, and cauſe them to form a moſt ſtriking contraſt with each other.

Theſe particulars being firſt attended to, the next general rule is, ſo to diſpoſe the plants, that they may form a riſing ſurface from the front to the back-part of the houſe. A ſpace of four feet muſt be allowed in the front for walking, and four or five on the back-part, in order to admit a free current of air to the plants, and afford room to the Gardener to perform the neceſſary operations of his office. Let the firſt row of pots, therefore, be placed four feet from the front wall: Theſe muſt be the ſmalleſt plants; they muſt be ſet upon the floor, and ſhould conſiſt of a double or triple range, the third being the talleſt; and the others muſt be made to riſe regularly, by boards placed upon treſſels, until you come to the higheſt planks, placed upon ſtrong treſſels, five feet from the back wall of the houſe. They muſt be ſo placed, that the main ſtems may be hid by the heads of thoſe which are a degree lower. The branches of all the plants muſt be at liberty, and not made to interfere with each other; the ſtiffneſs of a ſtraight row, unleſs that in the front, muſt be avoided as much as poſſible, and an air of liberty afforded the whole place. This is neceſſary for the preſervation of the plants, as well as the beauty of their appearance. Plants crouded can never thrive, and though they may keep alive, yet they will ſoon have a ſickly look; ſo that if the quantity of plants be too great for the houſe, it would be adviſeable to diſpoſe of the worſt of them, or to enlarge the houſe, rather than place them too near each other. They may be ſet in warm well-ſheltered places in the wilderneſs-quarters, or in warm parts of the ſhrubbery; and in ſuch places they will often continue for ſeveral winters. Many of our Green-houſe plants require only protection from hard froſts, and in mild winters they will live abroad in warm well-ſheltered places; ſo that the redundant Green-houſe plants may not be wholly ſaid to be loſt, though they are diſcarded the houſe: They may be made to adorn thoſe places, and take their chance, whether it be for a long time or a ſhort one; there will be no loſs of them, for the Green-houſe is compleat without them; and if the froſt takes them off, even the firſt winter after being planted out, their place is no worſe than it was before, and may be occupied afterwards by other plants which may be excluded the Green-houſe to make room for ſome that are younger and better, in the like manner. Thus by conſtantly raiſing and keeping up ſuch a ſtock of Green-houſe plants as ſhall be directed under their ſeveral articles, no inconſiderable ſhare of our Wilderneſs Works, if the ground be ſandy, dry, and warm, will be enriched by the different ſorts of Green-houſe plants, growing with freedom in common with the hardy kinds.

Rules for the Management of the Plants.

At the time of bringing the plants into the houſe, all decayed leaves, broken branches, &c. muſt be carefully taken off; the ſurface of the mould ſhould be pared off, and freſh mould added, which may be one, two, or three inches thick, in proportion to the ſize of the pot, the depth of the tub, or the height the roots lie towards the ſurface. After all the plants are in the houſe, and properly ſtationed in their places, every evening, as the colds advance, an hour before ſun-ſet, the windows ſhould be ſhut, and opened again in the morning about ten o'clock. A proper quantity and a due temperature of air muſt always be afforded the plants; but in granting this, the greateſt caution muſt be uſed; for too much of it in cold weather will kill them, and too little of it occaſions the plants to loſe their colour, and brings on mouldineſs, ſickneſs, diſeaſes, and at laſt death. Decayed leaves alſo have a tendency to bring on thoſe diſorders; ſo that whenever they are obſerved to loſe their colour, they muſt be entirely taken off, and no precaution muſt be omitted to keep every thing ſweet and pure.

In November and December, as the colds advance, a ſtricter eye muſt be had to the quality of the air. Thoſe months are remarkable for cold fogs, attended with damps, which are almoſt as deſtructive to plants as froſt. The windows, and even the ſhutters, muſt be kept cloſed during thoſe fogs; and if you can any ways perceive them to enter the houſe, a ſmall fire muſt be lighted in the flue, which will rarefy the air in the houſe, diſpel the fogs, and remove all impending danger from that cauſe: And though no ſuch fogs happen, yet as the weather at that time of the year is often cold, the ſhutters ſhould be cloſed before ſun-ſet, and not opened again before ten o'clock the next morning. Nevertheleſs, if a fine mild ſeaſon ſhould ſet-in, there will be no occaſion to cloſe the ſhutters, and then the windows may be opened at leaſt four hours in the middle of every day.

During the whole winter, be careful at proper intervals to pluck out all decayed leaves; for theſe, by their rancid vapours, will threaten the healthieſt plants with deſtruction; and the infection will infallibly ſpread itſelf, unleſs the cauſe be timely removed by keeping the houſe always clean. One day in a week ought to be appropriated to this work, and then there will be no danger of ſuffering from that quarter.

Watering muſt be afforded the plants as ſparingly as poſſible all winter, and none muſt be given them when the houſe is obliged to be kept ſhut up. The air in the houſe is rendered damp by watering, and that will be extremely prejudicial to the plants, if it does not freely paſs off; on that account, therefore, all watering ſhould be performed a little before noon-day in mild weather, the ſun ſhining full upon the houſe. If the weather ſhould continue mild, and will admit of the windows being often open, the plants will call for more water in proportion; but the gardener muſt obſerve, that they are not all to be helped alike; ſome muſt have it plentifully, others ſparingly; and ſome, ſuch as the Double *Naſturtiums*, &c. none at all.

As the days increaſe in length, a proportional greater quantity of air and water may be given the plants; the windows ſhould be opened on all favourable occaſions, and there will be then no danger of the plants ſuffering by a confined damp air.

Early in March, the upper mould in the pots and tubs ſhould be cleared off as deep as may be without diſturbing the roots, if it was not done in the autumn; and freſh mould, of the ſame ſorts, from the different compoſts, added. The windows muſt be ſet open about an hour after ſun-riſing, but ſhould always be ſhut before it ſets. The clearing of dead leaves muſt now be more ſtrictly attended to, becauſe they will fall in greater plenty: Watering the plants alſo oftener, and in greater plenty than heretofore, muſt be obſerved; and this treatment will both invigorate your plants, and harden them againſt they are ſet abroad in the open air.

The keenneſs of March winds are well known, and the uncertainty of the weather at that ſeaſon ſhould caution the gardener to be continually upon the watch. Though the windows may be full opened in mild mornings, he ſhould have a ſtrict eye to the change of weather; and whenever he finds the cold blaſts, hail-ſtorms, &c. come on, eſpecially if they are in the front of the houſe, he ſhould ſhut all the windows on their firſt approach, and open them again by degrees, when ſuch weather is over.

As the ſeaſon advances, and the trees are entered upon a growing ſtate, the ſtems and branches of the trees ſhould be waſhed with warm water, and dried with a flannel; a ſpunge is proper for this purpoſe; and though it may be thought to be a troubleſome office, yet the gardener will ſoon find his labour recompenſed by the additional air of healthfulneſs it will ſenſibly convey to his plants.

Early in April the hardieſt plants may be brought out of the houſe; but muſt be ſet at firſt in a warm well ſheltered place, for even then cold weather often happens; on which account the hardieſt only are to ſtand the brunt; and they muſt always have their ſhield at hand, until no danger from ſuch an evening is to be apprehended.

By the end of April, the plants of the ſecond degree of tenderneſs muſt be ſet abroad: Theſe alſo muſt be ſtationed, at firſt, in a warm place, that is well defended.

About the middle or end of May, the moſt tender ſorts alſo may quit the houſe; and at this time the whole body may be collected, and ſtationed in the places where they are to remain for the ſummer.

The time when the plants are taken out of the houſe, is the uſual time for trimming and ſheering the heads of myrtles, &c. if you chooſe it; but this is falſe taſte, though too much practiſed; every plant ought to grow with that native eaſe, and ſhow itſelf in that luxuriance and freedom which Nature deſigned for it.

This is the time alſo for ſhifting ſuch plants, as require it, into larger pots or tubs. In doing of this, as much of the old mould as may be, and fibres that have ſtruck againſt the ſides of the pot, muſt be pared off, and the whole placed afreſh in larger pots or tubs, filled with the beſt compoſt ſuited for the different ſorts.

They ſhould have as much water as their reſpective natures require; and about the laſt week in September, or firſt week in October, the tendereſt kinds ſhould be taken into the houſe: Theſe ſhould not be fixed in their places before the others are brought in, but they may be ſet any-how at random, leaving the windows quite open. About the middle of October, plants of the ſecond degree of tenderneſs may be received into the houſe, in like manner; and by the beginning of November, all the hardieſt ſorts ſhould be brought in, and then all of them ſhould be ſtationed for their winter-quarters, as before.

CHAP. I.

AGAVE, AMERICAN ALOE.

THE two noted Green-houſe ſpecies of this genus are uſually called,

Species. 1. Great American Aloe.

2. Virginian Aloe.

Great American Aloe. 1. The Great American Aloe is a well-known plant, and its flowering formerly was the object of general attention; curioſity attracted every one to attend it in that ſtate; it excited wonder, afforded general ſatisfaction, and afterwards became the object of converſation for many ſucceeding years. The flowering now is become common; hardly a year paſſes, but it may be found one-where or other in that ſtate; curioſity, which always abates by degrees, is almoſt exhauſted; and this wonderful plant is attended with little more emotion in the beholders, than that of any other large flowering foreign plant.

Deſcription of it. The leaves are exceeding large, ſmooth, of a fine bluiſh green, indented, and well armed with very ſtrong, ſharp ſpines. The flower-ſtalk will riſe to twenty feet high, or upwards; it branches out all around, and forms a pyramid; the flowers grow from the joints in cluſters, they are of a greeniſh yellow colour, and ſtand erect; they continue in ſucceſſion for ſome months, if they are well protected from cold, but are never ſucceeded by ripe ſeeds in our gardens.

Variety. There is a beautiful variety with ſtriped leaves, which is much admired. Theſe plants are a long time before they flower, which has occaſioned the ridiculous report of their not flowering before they are an hundred years old. In our cold climate, where the leaves expand themſelves but ſlowly, I believe they may be near half that time, and many of them longer than fifty years, before they ſhew their bloom: In their own climate, where they grow faſter, I have been informed they are brought to flower in a few years. We need not grudge, however, the delay of the flowering with us; for we are daily regaled with the grand appearance, healthy look, and pleaſing contraſt, which this plant ever affords in its progreſs to the flowering ſtate.

Virginian Aloe deſcribed. 2. Virginian Aloe. The leaves of this ſpecies are ſpear-ſhaped, indented, and armed with ſharp ſtrong ſpines, like the former; and they differ from them chiefly in this, their colour is a paler green, and they are narrower toward the extremity. The flower-ſtalk is altogether unbranching, and riſes to ten or twelve feet high; the flowers crown the top of it in a cloſe head, and are of a greeniſh-yellow colour, like the former. There is a variety of this ſpecies with oblong, broad leaves, of a thinner ſubſtance, having their edges more cloſely indented, and ſet with ſharp dark-coloured ſpines.

Culture. All theſe ſorts are eaſily propagated by the ſuckers, which they ſend forth in plenty, eſpecially the firſt ſort. Theſe ſhould be planted in ſmall pots, filled with a compoſt of one half of good freſh mould, and the other half of ſand. As ſoon as they are planted, they ſhould be ſet in a ſhady place, be now and then watered in very dry weather, and there they may remain all ſummer. Being reckoned among the hardieſt of the Green-houſe plants, they may ſtand abroad until the end of October, and may be removed the firſt of all out of the houſe the ſpring following, except the Broad-leaved, and the Broad-leaved Black-ſpined variety, which are rather more tender. During their ſtay in the houſe, they ſhould have but little water, and their ſtation ſhould be in the cooleſt part of it. They muſt from time to time be ſhifted into larger pots, as there ſhall be occaſion; and finally into tubs. At every ſhifting, as much of the old mould as conveniently may be, ſhould be pared off, and taken out, that the root may have more of the new ſoil to ſport in; and the offſets muſt be entirely taken off, and either planted in the like manner to increaſe the ſtock, or be thrown away.

If offſets ſhould be wanting, and you are deſirous of encreaſing your number of thoſe plants, you may take ſome large pieces from the roots, which if ſet in ſmall pots, like the offſets, will ſoon ſhoot up, and become good plants.

A few of theſe plants ſhould be turned out of the pots, when they are pretty large, and ſet in the Ever-green wilderneſs quarters, if the ſoil is naturally ſandy and warm. There they will have a ſweet effect at all ſeaſons of the year, by the fine contraſt they will cauſe with the other plants; and in ſuch a ſituation thus naturally dry, ſandy, and we may ſuppoſe well-ſheltered by the neighbouring trees, they will out-weather our common winters. But as they are ſure to be deſtroyed by very hard froſts, it will be worth while to have ſome wooden caſes made, with which to cover them when hard froſts ſet-in. They may have the additional protection of mats, &c. in proportion as the froſt is more or leſs intenſe; and on the firſt return of fine weather, the whole ſhould be taken away. Theſe caſes ſhould be made to take to pieces, and ſhould be laid in a convenient place to be always ready for uſe.

Plants thus growing in the full ſoil, and protected from the injuries of froſt in winter, will grow faſter and to a larger ſize than thoſe confined in pots or tubs; the leaves will grow to be upwards of ſix feet high, the time of flowering will be accelerated, and the whole plant, thus unexpectedly ſtationed, will have a more lively and ſtriking look.

1. The great American Aloe is titled, *Agave foliis dentato-ſpinoſis, ſcapo ramoſo.* In the *Hortus Upſal.* it is termed, *Agave foliis ſpinoſo-dentatis mucronatiſque*; and in the *Hortus Cliffort. Aloe foliis lanceolatis dentatis ſpinâ terminatis radicalibus.* Caſpar Bauhine calls it, *Aloe folio in oblongum mucronem abeunte.* It grows naturally in the warmer parts of America. Titles. Americana

2. Virginian Aloe. This is titled, *Agave foliis dentato-ſpinoſis, ſcapo ſimpliciſſimo.* Gronovius calls it, *Aloe foliis lanceolatis ſpinâ cartilagineâ terminali,* Virginica

nali, floribus alternis ſeſſilibus. It grows naturally in Virginia.

Claſs and order in the Linnæan Syſtem. The characters.

Agave is of the claſs and order *Hexandria Monogynia*; and the characters are,

1. Calyx. There is none.
2. Corolla is an infundibuliforme petal, divided at the top into ſix equal, ſpear-ſhaped, erect ſegments.
3. Stamina are ſix filiforme, erect filaments longer than the corolla, having linear verſatile antheræ.
4. Pistillum conſiſts of an oval germen ſituated below the flower, of a filiforme three-cornered ſtyle the length of the ſtamina, and a capitated, three-cornered ſtigma.
5. Pericarpium is an oblong, triangular capſule, formed of three valves, and containing three cells.
6. Semina. The ſeeds are numerous.

CHAP. II.

ALOE.

THO' the ſorts of Aloes are ſo numerous in our Green-houſes, there are no more than eight diſtinct ſpecies belonging to this genus; one of which has been already treated of as a plant hardy enough to endure the cold of our moderate winters in the open air, and another ſpecies muſt be reſerved for the Stove; ſo that thoſe remaining for the Green-houſe are,

Species.

1. Perfoliate Aloe.
2. Variegated or Partridge-breaſt Aloe.
3. Diſtichous Aloe.
4. Spiral Aloe.
5. Short Thick-leaved or Cuſhion Aloe.
6. Pearl Aloe.

Perfoliate Aloe.

1. Perfoliate Aloe. This ſpecies comprehends no inconſiderable ſhare of the Aloe tribe; our Green-houſes are full of the varieties with different names, and the works of old authors are replete with ſtudied titles by which they may be diſtinguiſhed: Indeed, at firſt ſight, ſo different an appearance do they make from one another, that one ſhould be ready to concur with them, and adjudge them to be diſtinct branches of the Aloe family; upon a nicer examination, however, we find their manner of flowering to be the ſame, which occaſioned Botaniſts to pay ſo little regard to the external differences of the leaves, ſize of the plants, or colour of their flowers.

Deſcription of it.

The general character of this ſpecies is this: Their flowers are placed drooping, have footſtalks, and their form of growth is nearly cylindrical. In this manner flowers the Perfoliate Aloe; and whenever we ſee a bunch of flowers thus characteriſed, we may conclude it to be a variety of this ſpecies, let its ſize, figure of the leaves, or colour of the flowers, be what they will.

In this manner flower the well known ſorts, called,

Varieties.

The Sword Aloe.
The Soap Aloe.
The Carolina Aloe.
The Smooth-leaved Aloe.
The Great Prickly-ſpotted Aloe.
The Smaller Prickly-ſpotted Aloe.
The Mitred Aloe.
The Succotrine Aloe.
The Narrow Glaucous-leaved Aloe.
The Broad Glaucous-leaved Aloe.
The Short Glaucous-leaved Aloe.
The Spreading Glaucous-leaved Aloe.
The Hedge-hog Aloe.
The Hepatick Aloe.

The preceding Varieties deſcribed.

1. The Sword Aloe has leaves that are reflexed downward, are of a ſea-green colour, and embrace the ſtalk with their baſe. The ſtalk grows to be eight or ten feet high: The flowers are of a bright-red colour, and ſhew themſelves in perfection in November and December.

Soap Aloe. The leaves of this ſort are of a dark-green colour, and are ſo mottled with white as to form a colour like that of ſoft ſoap; they are broad at the bottom, prickly on their edges, diminiſh gradually to a point, and cloſely embrace the ſtalk with their baſe. The ſtalk grows to about two feet high: The flowers are of a beautiful red colour, and ſhew themſelves in perfection in Auguſt and September.

Carolina Aloe. The leaves of this ſort are of a light green colour, ſpotted with white in a ſoap-like manner; they are broad at the bottom, diminiſhed gradually to a point, their edges are guarded with copper-coloured ſpines, and they cloſely embrace the ſtalk with their baſe. The ſtalk grows to about two feet high: The flowers come out in September; their colour is red, and they are more looſely diſpoſed in the ſpike than many of the other ſorts.

Smooth-leaved Aloe. The leaves of this ſort are of a ſea-green colour, free from ſpines, and ſurround the ſtalk with their baſe. The ſtalk grows to about two feet high, and the flowers come out in September.

The Great Prickly-ſpotted Aloe. The leaves of this ſort are very large, prickly, and ſpotted; the ſtalk is robuſt, will grow to about a yard high, and the drooping flowers at the top have a fine effect.

Smaller Prickly-ſpotted Aloe. The leaves of this ſort are much ſmaller than the former, are prickly-ſpotted, and ſurround the ſtalk with their baſe. The ſtalk grows to about a foot and half high, and is crowned by a beautiful cylindrical tuft of flowers.

Mitred Aloe. This is ſo called, from the poſition of the leaves, which are broad at the bottom, end in a point, ſtand erect, and ſo converge at the top, as to form the appearance of a mitre: Their colour is a dark-green; they have ſpines on their edges and upper ſurface, are thick, ſucculent, and ſurround the ſtalk with their baſe. The ſtalk will grow to be about four feet high, and is terminated by a large cylindrical bunch of flowers, whoſe colour is a fine red tipped with green: They grow on pretty long footſtalks; and, when in full blow, have a ſweet effect.

Succotrine Aloe. The leaves of this ſort are long, narrow, ſucculent, ſharp-pointed, and form a large head; the ſtalk grows to be three or four feet high. The flowers are produced in long ſpikes, having pretty long footſtalks; their colour is purple, and there is a variety of it with red flowers tipped with green. The leaves of this ſort being cut, there drops out a fine yellow bitter juice, which when depurated and dried, is that admirable cathartick called *Aloes* in the ſhops.

Narrow Glaucous-leaved Aloe. The leaves of this ſort are long, narrow, ſucculent, end in a ſharp point, and their ends are reflexed downwards; their colour is a ſea-green, and towards the ends they have ſeveral ſpines on their backs. The ſtalk grows to be ſix feet high; the flowers grow in a looſeiſh ſpike, their colour is red, and they generally come out the beginning of winter.

Broad-leaved Glaucous Aloe. The leaves of this ſort are much broader than thoſe of the former, have the ſame colour, and are every where armed with ſpines. The ſtalk grows to about ſix feet high; the flowers are produced drooping in looſe ſpikes; theſe, when the plant is in good plight, will be pretty large; and their colour is red, tinged or tipt with green.

Short-leaved Glaucous Aloe. The leaves of this ſort are very ſhort, but moderately broad at the bottom; they diminiſh gradually to a point, are of a ſea-green colour ſpotted with white, their upper parts and edges are beſet with ſpines, and they cloſely embrace the ſtalk with their baſe. The ſtalk riſes only to about a foot high; the flowers are produced in looſe ſpikes; the tubes are of a red colour, but the limbs are of a light green; they hang drooping, and by their different tints have a pretty effect.

Spreading Glaucous-leaved Aloe. This hath ſhort leaves like the former, but broader, and ſpread themſelves every way; the ſtalk riſes to about a foot high; and the flowers grow drooping in looſe ſpikes.

Hedge-hog Aloe. The appearance of this plant is different from any of the former, and the flowers only teach us that it is of the ſame family. The leaves are erect, awl-ſhaped, broad at their baſe, and at the point are triangular: Both ſurfaces as well as the edges are beſet with ſoft ſpines, which gained this ſort the appellation of Hedge-hog Aloe. There is no ſtalk, except that which immediately ſupports the flower; it riſes in the boſom of the leaves, is thick, upright, and hardly a foot high: The flowers crown the top of it in a looſe ſpike; their colour, when full blown, is an elegant red.

Hepatick Aloe. The leaves of this ſort grow cluſtered together, are very thick, broad at their baſe, and diminiſh gradually to a point; they grow to be about a foot and a half or two feet long, are of a ſea-green colour, and ſpotted with white; they terminate in ſoft ſpines, their edges are indented, and each of them ends in a ſhort ſoft ſpine. The ſtalk grows to about a yard high. The flowers are produced in looſe ſpikes, and their colour is yellow.

The leaves of this ſort being cut, there comes out a yellow juice of the utmoſt bitterneſs, which being depurated and dried in the ſun, becomes what is called the ***Hepatick Aloes*** in the ſhops.

Theſe are the principal varieties of this ſpecies, tho' many others of minuter differences might be named; they are all exceeding beautiful, permanent from ſeeds, and are by many ſaid to compoſe one of the richeſt branches in their collection of tender plants. Proceed we now to the next ſpecies of this genus, called,

Variegated Aloe deſcribed.

2. Variegated Aloe. There are ſeveral varieties of this ſpecies, but the moſt noted one uſually goes by the name of the Partridge-breaſt Aloe. It is a low plant, about ſix or eight inches high; the leaves are fleſhy, triangular, turn back at their extremity, and their edges are ſlightly ſawed; they have the colour of a Partridge's breaſt, being veined or mottled in the like beautiful manner, which gained the plant this appellation. The flowers are branching, and terminate the ſhort ſtalks in looſe ſpikes; they are of a fine red colour, tipped with green, and ſpread equally at the brim.

Diſtichous Aloe deſcribed.

3. Diſtichous Aloe. This is another very extenſive ſpecies of this genus, and comprehends numerous beautiful ſorts of the Aloe; ſuch as,

The Common Tongue Aloe.
The Deep-ſpotted Tongue Aloe.
The Broadeſt Tongue-leaved Aloe.
The Triangular-leaved Warted Aloe.
The Carinated-leaved Warted Aloe.
The Warted Coral Aloe.
The Pliable-leaved Aloe.

Varieties deſcribed.

The Common Tongue Aloe has leaves about half a foot long, ſhaped like the tongue, and grow near the ground; the flowers grow in looſe ſlender ſpikes, hang downward, are greeniſh at the top of the ſpike, but, lower, are of a fine red colour.

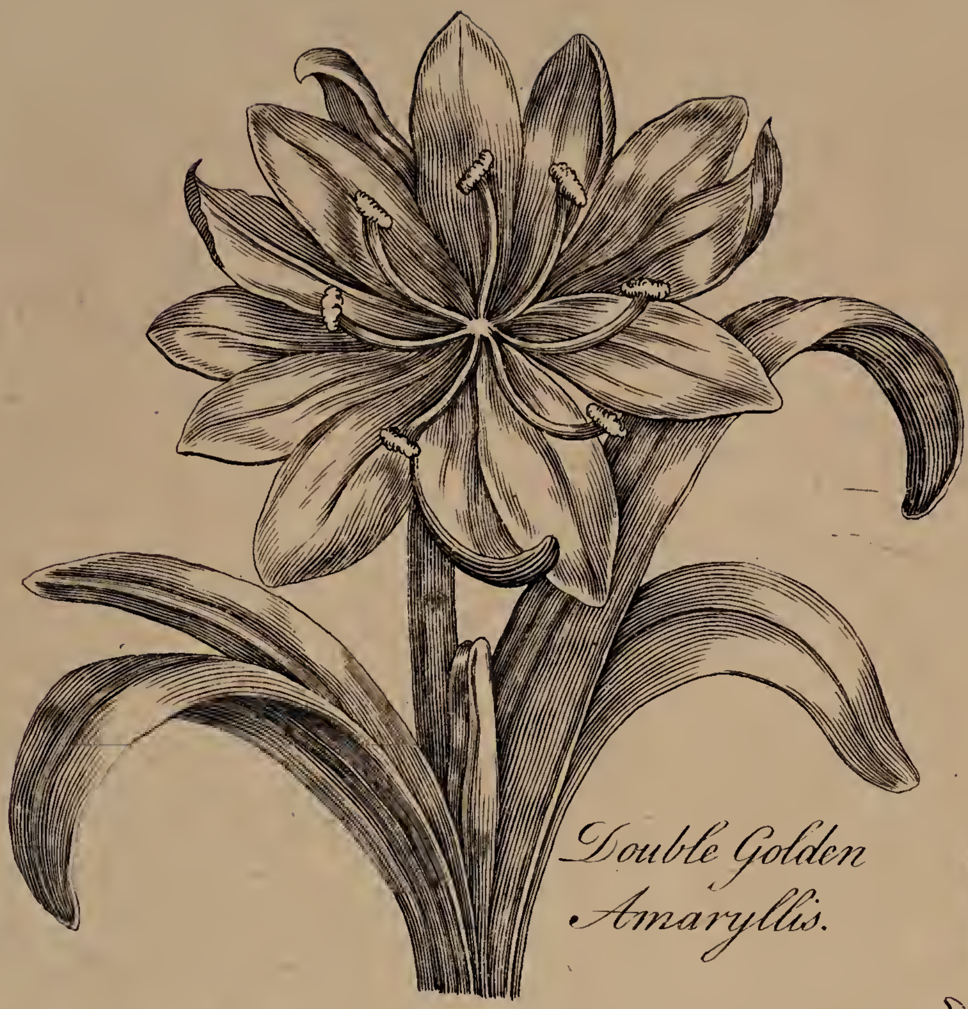
The Deep-ſpotted Tongue Aloe. The leaves of this ſort are broad, thick, and near ten inches long; their ground is a fine green, but they are deeply ſpangled with white tranſparent ſpots; the flower-ſtalks will often grow to be two feet high, are round, upright, and will be garniſhed with the flowers almoſt the whole length; they hang drooping in the uſual manner, and their colour is a beautiful ſcarlet.

Broadeſt Tongue-leaved Aloe. The leaves of this ſort are very broad, plain, faintly ſpotted, and grow cloſely together; among theſe the flower-ſtalk ariſes, which will grow to about two feet high; and the upper part is garniſhed with the flowers: Theſe are of a delicate red colour tipped with green.

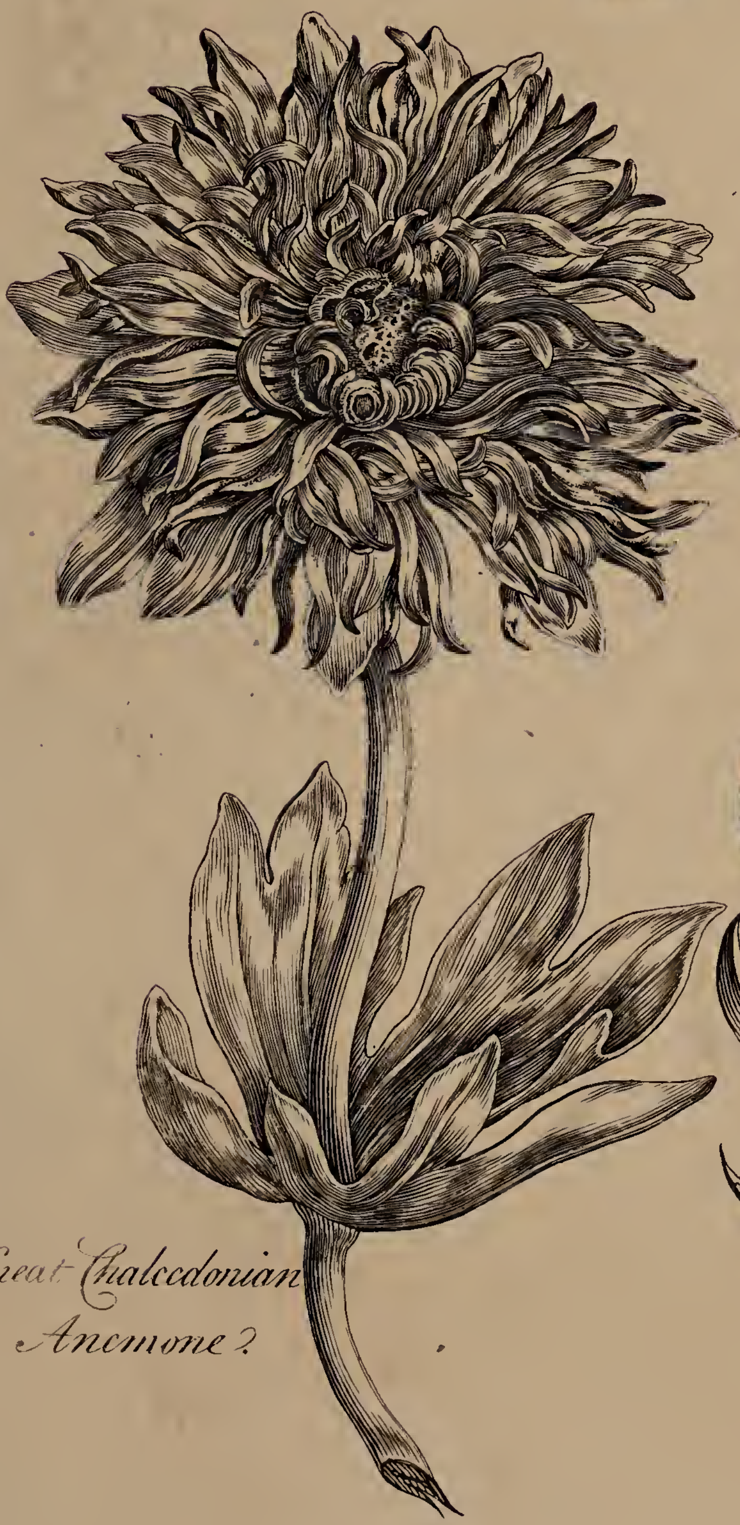
Triangular-leaved Warted Aloe. The leaves of this ſort are thick, triangular, and covered on both ſides with numerous tubercles, in the manner of warts; the flower-ſtalks grow to be two feet high, and the flowers adorn it almoſt the whole length; they hang drooping on crooked footſtalks, and their colour is a faint red, mixed with green.

Carinated Warted Aloe. The leaves of this ſort are keel-ſhaped, thick, and covered with tubercles or warts in every part. The ſtalk is garniſhed with the flowers almoſt the whole length, and their colour is an elegant red.

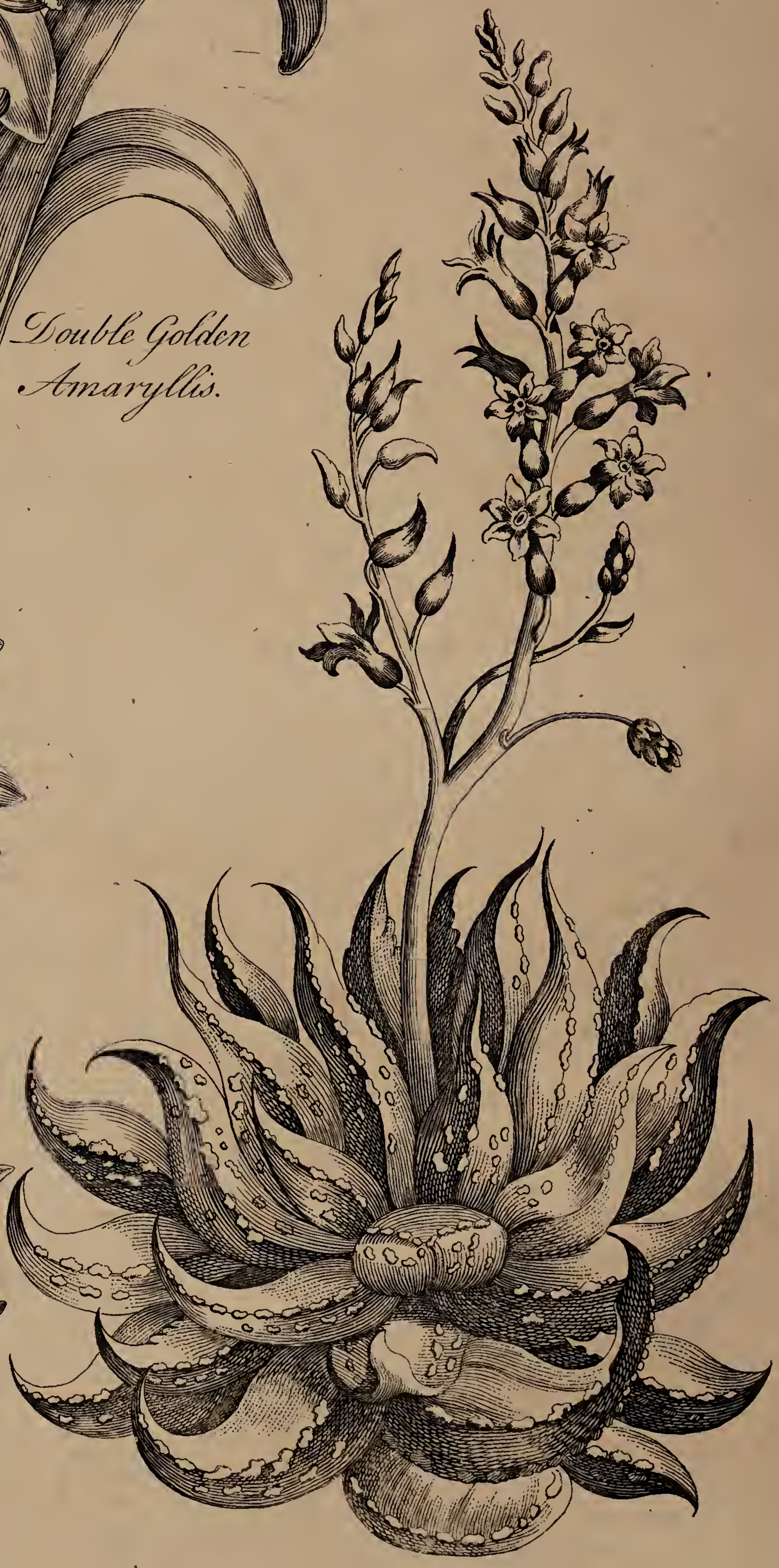
Warted Coral Aloe. The leaves of this ſort are broad, thick, almoſt triangular, about eight inches long, and divide or ſpread themſelves into two ſeries; they are covered all over with white tubercles called warts, which are of uncertain figures, and occupy the leaves from the baſe to the very points. The flower-ſtalk riſes between the leaves, and grows to two feet and an half high; it is round, firm, and of a poliſhed red like coral, which has gained this ſort the appellation of Coral Aloe. The flowers adorn the ſtalk above half its length; their general colour is red tho' towards the baſe they are tinged with green, and frequently many of them



Double Golden Amaryllis.



Great Chalcedonian Anemone.



Pearl Aloe.

them will be ſtreaked with white; they are moderately large, and the top of the ſpike bends with the preſſure of their weight.

Pliable-leaved Aloe deſcribed.

Pliable-leaved Aloe riſes with a ſtrong, woody ſtem to the height of about ſix or ſeven feet. The leaves are very long, compreſſed, pliable, and arranged in two ſeries, lying over each other; they are free from ſpines, obtuſely-pointed, of a ſea-green colour, and grow in heads from the upper parts of the ſtems. The flowers are produced in looſe ſpikes, are of a red colour, and make their appearance at different times of the year.

Sure token of knowing this ſpecies.

There are many other varieties of this ſpecies, but theſe are the principal and the moſt permanent ones; though even theſe frequently vary by ſeeds, and plants different in complexion, ſize, or figure, will ariſe from one ſort of ſeeds. But whatever appearance any ſort of Aloe may make, the firſt thing to be obſerved is the footſtalk of the flowers; and if we find them crooked, and of an oval, cylindrical figure, we may depend upon it, that that Aloe is of this ſpecies, and belongs to the Diſtichous tribe.

Deſcription of Spiral

4. Spiral Aloe. This admits of fewer varieties than the former ſpecies, and the characters are as follow: The flowers are oval, crenated, the interior ſegments being connivent, and have no footſtalks at all. The ſtalk of this ſpecies is robuſt, upright, round, and two, three, or more feet high, according to the varieties of it. The leaves are of different ſizes in the different varieties; though, in general, they are oval, ſharp-pointed, and lie over each other in an imbricated manner. The flowers grow in cloſe ſpikes, having no footſtalks; their general colour is green, tho' there will be ſometimes a mixture of red, and ſome ſtripes of white.

and Short Thick-leaved Aloe.

5. Short Thick-leaved or Cuſhion Aloe. This is an exceeding low plant, and of amazing ſingularity and beauty. The leaves are very ſhort, thick, ſucculent, grow in cluſters, and have their upper ſide compreſſed in the manner of a cuſhion. Hence the name Cuſhion Aloe has been generally uſed for this plant. The flower-ſtalk riſes between the leaves, and is very ſlender, round, ſmooth, and about eight inches high. A few flowers only garniſh the top of it in a looſe ſpike; they are placed irregularly, and the upper ones in general have no footſtalks, but thoſe on the lower part of the ſpike have very ſlender, ſhort footſtalks: Their general colour is a light-green; though there is a variety of it with white, and another with ſtriped flowers.

Pearl Aloe.

6. Pearl Aloe. Of this ſpecies there are many beautiful varieties; ſuch as,

Varieties.

The Common Pearl Aloe.
The Large Pearl Aloe.
The Smaller Pearl Aloe.
The Leaſt Pearl Aloe.
The Arachnoide or Cobweb Aloe.
The Cylindrical-leaved Arachnoide Aloe, &c.

Deſcription of Pearl Aloe.

Pearl Aloe. The leaves are thick, fleſhy, oval, ſharp-pointed, and grow in cluſters together. Some lie flat on the ground, others are nearly upright, and the points of all of them turn upwards. Their general colour is a fine green; but they are beautifully ſpangled with pearly-white tubercles of a firm ſubſtance. Among the leaves riſes the flower-ſtalk, which divides into a few branches near the top, and will grow to be a foot and a half high. The flowers are produced from the ends of the branches in ſpikes; they grow on very ſhort, ſlender footſtalks, and are of a whitiſh-green colour tinged with red.

Large,

Large Pearl Aloe. This is very little longer than the former ſort. The leaves are thick, fleſhy, grow in an irregular cluſter near the ground, are beautifully ſtudded with numerous white tubercles, and are long and triangular at the end. Among the leaves riſes the flower-ſtalk, which divides into a few branches, and will grow to upwards of two feet high. The flowers terminate the branches in ſpikes, grow on ſhort, ſlender footſtalks, and are of a light-green colour.

Smaller,

The Smaller Pearl Aloe. The leaves are very ſhort; but they are thick, ſharp, triangular-pointed, and covered all over with tubercles of the colour of pearl. The flower-ſtalk riſes to ear a foot high; it branches a little, and the flowers are of a whitiſh green colour.

and Leaſt Pearl Aloe deſcribed.

The Leaſt Pearl Aloe. The leaves of this ſort are ſtill ſhorter than the former; but they are very thick, pearly, and triangular-pointed. The ſtalk riſes to about ſix inches high, branches a little, and ſupports a few ſmall, greeniſh flowers.

Deſcription of Arachnoide

Arachnoide or Cobweb Aloe. The leaves are plain, ſucculent, triangular towards the end, and ſpread flat on the ground; their borders, and alſo the angle on their under-ſide, are poſſeſſed of numerous ſoft, white ſpines. The ſtalk riſes to about a foot high, is very ſlender, and ſupports three or four flowers of a greeniſh colour.

and Cylindrical-leaved Arachnoide Aloe.

Cylindrical-leaved Arachnoide Aloe. The leaves are nearly cylindrical at their baſe, but triangular at the ends; they are very fleſhy, ſhort, and adorned with numerous, ſoft, herbaceous ſpines at the angles. The flower-ſtalk riſes to about a foot high, and ſupports a few greeniſh flowers growing at a diſtance from each other.

Culture.

All the Aloes are propagated either by offſets from the roots, or by the leaves. When offſets are produced, (as moſt of them do in plants) that method is to be preferred; but for want of offſets, the leaves with proper management will grow, and become good plants.

Method of raiſing Aloes by offſets.

In order to raiſe a good ſtock of Aloes, then, about the middle of July, let a ſufficient quantity of offſets of the different ſorts be procured. Examine the parts where they were ſlipped off, and if you find them moiſt, lay them in a dry, ſhady place for two or three days, to heal and ſkin over: If you find they are well hardened, you may proceed to the buſineſs of planting them as ſoon as you pleaſe. A ſufficient quantity of ſmall pots ſhould be in readineſs, and a proper compoſt alſo ſhould be prepared; and in theſe pots, having placed ſome ſmall ſtones, oyſter-ſhells, or the like, to drain off the moiſture, the plants ſhould be ſet, but not too deep. The pots ſhould be then ſet in the green-houſe, where no ſun can come at them; and the next day the plants may have a ſmall ſprinkling of water. This muſt be repeated now and then; but it muſt be in a very ſmall quantity at a time, for too much moiſture will rot them. The plants in this ſituation will ſoon ſtrike root; and after they have thus remained about three weeks, they ſhould be brought nearer the windows, that they may have the air more freely. Here they may remain for about a fortnight or three weeks longer, when they may be removed into the open air among other tender plants. By this time we may ſuppoſe the month of Auguſt to be elapſed; ſo that their ſtay abroad muſt be very ſhort; for before the end of September, unleſs exceeding fine weather ſhould happen, they muſt be ſet again in the green-houſe. During winter they muſt have very little water, and muſt occupy the warmeſt parts of the houſe. About the end of May they ſhould be ſet abroad as before, and in July they muſt be ſhifted into larger pots. In doing of this, turn the plants out of the pots, with the mould at the roots, into your left hand; then gently looſen the earth at the bottom and the ſides, and cut off all mouldy and decayed parts. Afterwards, carefully plant them in pots a ſize larger, filled with the like kind of earth; preſs the mould well to the roots, give them a good watering, and ſet them in the ſhade. Afterwards, afford them water as the ſeaſon makes it neceſſary; and in September remove them into the green-houſe, as before. The July following they muſt be again ſhifted into other pots, and even the ſmalleſt plants ſhould undergo this operation, for the ſake of freſh mould; and this work muſt be repeated every year. At every one of the ſhiftings the ſuckers muſt be taken off, and planted as before, to encreaſe the ſtock; but as ſome ſorts are leſs liable to throw out ſuckers than others, I ſhall proceed to give directions for raiſing plants from the leaves, by which the ſtock may be kept up and improved.

Of raiſing Aloes from the Leaves.

Of raiſing Aloes from the leaves.

If you find a plant diſpoſed to deny you ſuckers, in June ſtrip off a few of the under leaves that are well-grown, firm, and good; lay them in a dry, ſhady place, for the wounded part to heal and ſkin over. This will ſometimes require a week, ſometimes ten days; nay, the largeſt ſucculent ſorts will ſometimes be a fortnight before they are healed enough for planting. When you find this effected, plant them very ſhallow in the ſmalleſt-ſized pots you have; the depth of an inch will be ſufficient for middle-ſized leaves, and the others ſhould be deeper or ſhallower in proportion to their length. The earth ſhould be cloſely preſſed to them; they ſhould be removed into the green-houſe, and the next day ſhould have a gentle watering. Here let them ſtand about a week, when the mould will be well ſettled to them, and they will be preparing to ſtrike root. Then plunge the pots up to the rims in the mould of a gentle hot-bed: Let no glaſſes be over the bed, but let them be covered from the ſun in the heat of the day with mats, and at nights alſo let them be defended in the like manner. Nevertheleſs, afford them all neceſſary air, by opening the mats at times; give them now and then a ſmall ſprinkling of water, and in a few weeks they will begin to form themſelves into heads. As ſoon as you perceive this, let them be wholly uncovered in evenings and in mild weather; but keep them conſtantly ſhaded in the heat of the day, and water them at times. With this management they may ſtand until the end of September, when they ſhould be removed into the green-houſe, and treated like the other plants.

The Sword Aloe, the Succotrine, and the Hepatic, are the moſt tender of all the ſorts enumerated, and are generally treated as ſtove plants. They will live very well, however, in a good green-houſe; though, if there is the convenience of a ſtove, it would be adviſeable to ſet a few of the plants in the cooleſt part of it. With reſpect to the others, a little before you expect them to ſhoot up for flowering, you would do well to give them a moderate degree of warmth; for they ſeldom ſhew their bloom in any tolerable perfection without ſuch artificial aſſiſtance.

Proper compoſt.

The beſt compoſt for all the Aloes is four barrows full of rich, freſh, loamy earth, mixed with three barrows full of drip or ſea ſand. The earth ſhould be taken from the paſture with the ſward, ſhould be mixed with the ſand, and laid in an heap in the compoſt yard. This ſhould be done twelve months before it is uſed, that by conſtant turning the parts may be incorporated; the ſward entirely converted to mould, and the whole in the fineſt order for the purpoſes deſigned.

Some perſons mix lime-rubbiſh with the ſand; but this is done from a miſtaken notion, that the parts of Africa where they grow, abound with a kind of white, ſoapy earth; and therefore they think they ſhould imitate it as near as poſſible, by compoſing a (ridiculous) mixture of earth and lime-rubbiſh. Others, again, join marl in the compoſition, under a pretence that ſome of the ſorts, particularly the Partridge-Breaſt and the Cuſhion Aloes, grow in the marly, clayey parts of their native country. This practice is better founded on reaſon than the other; but it is needleſs trouble. I ever found that they flouriſhed exceedingly well in the above ſimple compoſition of earth and ſand, and that one compoſition alone anſwers admirably for all the ſorts.

Titles.

Perfoliata.

1. The Perfoliate Aloe is titled, *Aloe floribus pedunculatis cernuis corymboſis ſubcylindricis.* In the *Hortus Cliffort.* it is termed, *Aloe foliis caulinis dentatis amplexicaulibus vaginantibus.* The Sword Aloe is, *Aloe Africana cauleſcens, foliis glaucis amplectentibus.* Comm. Hort. 2. p. 27. t. 14. The Soap Aloe is, *Aloe Africana cauleſcens, foliis ſpinoſis maculis ab utraque parte albicantibus notatis.* Comm. Hort. 2. p. 9. The Carolina Soap Aloe is, *Aloe Africana cauleſcens, foliis ſpinoſis maculis ab utraque parte albicantibus obſcurioribus magis glaucis quam precedens.* Boerh. The Smooth-leaved Aloe is, *Aloe Africana cauleſcens perfoliata glauca & non ſpinoſa.* Comm. Præl. 74. The Great Prickly Spotted Aloe is, *Aloe Africana maculata ſpinoſa major.* Dill. Elth. 17. t. 14. f. 5. The Smaller Prickly Spotted Aloe is, *Aloe Africana maculata ſpinoſa minor.* Dill. Elth. 18. t. 14. f. 16. The Mitred Aloe is, *Aloe Africana mitriformis ſpinoſa.* Dill. Elth. 21. t. 17. f. 19. The Succotrine Aloe is, *Aloe ſuccotrina anguſtifolia ſpinoſa, flore purpureo.* Comm. Hort. 1. p. 91. t. 48. The Narrow-leaved Glaucous Aloe is, *Aloe Africana cauleſcens, foliis minus glaucis, dorſi parte ſupremâ ſpinoſâ.* Comm. Præl. 70. t. 45. The Broad-leaved Glaucous Aloe is, *Aloe Africana cauleſcens, foliis glaucis latioribus & undiquè ſpinoſis.* Comm. Præl. 70. t. 19. The Short-leaved Glaucous Aloe is, *Aloe Africana cauleſcens, foliis glaucis breviſſimis, foliorum ſummitate internâ & externâ nonnihil ſpinoſâ.* Comm. Præl. 75. t. 22. The Spreading-leaved Glaucous Aloe is, *Aloe Africana cauleſcens, foliis glaucis brevioribus, foliorum parte internâ & externâ nonnihil ſpinoſâ.* Comm. Præl. 71. t. 21. The Hedge-hog Aloe is, *Aloe foliis erectis ſubulatis radicatis undiquè inerme ſpinoſis.* Hort. Cliff. 131. And the Hepatic Aloe is, *Aloe foliis ſpinoſis confertis dentatis vaginantibus planis maculatis.* Hort. Cliff. 130. This ſpecies, in all its varieties, is found growing in one part or other of the Indies.

Humilis.

Vera.

Variegata

2. Variegated Aloe is titled, *Aloe floribus pedunculatis cernuis racemoſis priſmaticis, ore patulo æquali.* In the *Hortus Cliffort.* it is termed, *Aloe foliis canaliculatis trifariam imbricatis radicatis erectis, angulis cartilagineis ternis.* It is, *Aloe Africana humilis, foliis ex albo viridi variegatis.* Comm. Præl. 78. t. 28. It grows naturally in Æthiopia, and is found chiefly where the ſoil is of a clayey or marly nature.

Disticha.

3. Diſtichous Aloe is titled, *Aloe floribus pedunculatis pendulis ovato-cylindricis curvis.* The Tongue Aloe is, *Aloe foliis linguiformibus patulis diſtichis.* Hort. Cliff. 132. and the *Aloe Africana, flore rubro, folio maculis albicantibus ab utra-*

que parte notato. Comm. Hort. 2. p. 15. The Triangular-leaved Warted Aloe is, *Aloe Africana, flore rubro, folio triangulari & verrucis albicantibus ab utraque parte notato.* The Carinated-leaved Warted Aloe is, *Aloe Africana ſeſſilis, foliis carinatis verrucoſis.* Dill. Elth. 22. t. 18. f. 20. The Warted Coral Aloe is, *Aloe Africana, foliis planis conjugatis carinatis verrucoſis, caule & flore corallii colore.* Comm. Hort. 2. p. 5. t. 3. The Pliable-leaved Aloe is, *Aloe Africana arboreſcens montana non ſpinoſa, folio longiſſimo plicatili, flore rubro.* Comm. Hort. 2. p. 5. t. 3. It grows naturally in cliffs of rocks, and ſandy parts of Africa.

B

ε Plicatilis.

Spiralis 4. Spiral Aloe. This is titled, *Aloe floribus ſeſſilibus ovatis crenatis: ſegmentis interioribus conniventibus.* It is, *Aloe foliis ovatis acuminatis caulinis quinqueſariam inmbricatis.* Hort. Cliffort. 132. and the *Aloe Africana erecta rotunda; folio parvo et in acumen acutiſſimum exeunte.* Dill. Elth. 16. t. 13. It grows on the plains of Africa.

Retuſa. 5. Cuſhion Aloe. This is titled, *Aloe floribus ſeſſilibus triquetris bilabiatis; labio inferiori revoluto.* It is, *Aloe foliis rhomboidalibus ventricoſis quinqueſariam poſitis radicatis triquetris plano extantibus.* Hort. Cliffort. 132. and the *Aloe Africana, breviſſimo craſſiſſimoque folio, flore viridi.* Comm. Hort. 2. p. 11. t. 6. It grows naturally in the clayey parts of Africa.

Pumila. 6. Pearl Aloe. This is titled, *Aloe floribus ſeſſilibus bilabiatis; labio ſuperiore erectiore, inferiore recurvato.* The Large Pearl Aloe is, *Aloe Africana, folio in ſummitate triangulari, margaritifera, flore ſubviridi.* Comm. Hort. 2. p. 21. t. 10. The Smaller Pearl Aloe is, *Aloe Africana margaritifera minor.* Comm. Hort. 2. p. 21. t. 11. The leaſt Pearl Aloe is, *Aloe Africana margaritifera minima.* Comm. Præl. 43. The Arachnoide, or Cobweb, Aloe is, *Aloe Africana humilis arachnoidea.* Comm. Præl. 72. t. 27. And the Cylindrical-leaved Arachnoide Aloe is, *Aloe foliis ovato-lanceolatis carnoſis apice triquetris; angulis inerme dentatis.* Hort. Cliffort. 131. It grows naturally in the plains of Æthiopia.

CHAP. III.

AMELLUS.

OF this genus is one ſpecies, called Cape *Amellus.*

The plant deſcribed.

The ſtalk is woody, round, taper, and three or four feet high. The leaves are ſpear-ſhaped, obtuſe, entire, hoary, and grow oppoſite to each other, ſitting cloſe to the ſtalks. The flowers come out ſingly in footſtalks at the top of the plant; they are of a fine violet colour, having yellow centers, appear in Auguſt and September, and are followed by oboval ſeeds crowned with down.

Culture.

This is propagated by dividing the roots, or planting the cuttings, during any of the ſummer months, in beds of light rich earth: They muſt be covered with mats, and duly watered at firſt; and when they have commenced a growing ſtate, the mats muſt be taken off by degrees, and the plant hardened to the open air. In about a month after this, they muſt be planted ſeparately in pots filled with good garden-mould, obſerving, on the removal, to preſerve a ball of earth to each root. They are next to be watered and ſet in the ſhade, where they may remain for a few weeks, and then be placed in ſome warm part of the garden until the autumn, when they muſt be taken into ſhelter with the hardier kinds of the Green-houſe plants.

Titles.

Lychnitis.

This ſpecies is called, *Amellus foliis oppoſitis lanceolatis obtuſis, pedunculis unifloris.* In the former edition of the *Species Plantarum* it is termed, *Verbeſina foliis oppoſitis lineari-lanceolatis obtuſis integerrimis tomentoſis, pedunculo unifloro*; in the *Hortus Cliffort. Buphthalmum foliis oppoſitis lanceolato-linearibus obtuſis integerrimis, calycibus ſubrotundis.* It grows naturally at the Cape of Good-Hope.

Claſs and order in the Linnæan Syſtem.

Amellus is of the claſs and order *Syngeneſia Polygamia Superflua*; and the characters are,

The characters.

1. CALYX. The general calyx is imbricated, and nearly round.

2. COROLLA. The compound flower is radiated. The hermaphrodite florets are numerous in the diſk; the females many in the radius.

Each hermaphrodite floret is tubular, and cut into five ſegments at the brim.

The females are tongue-ſhaped, looſe, and have two or three indentures at top.

3. STAMINA of the hermaphrodites are five ſhort capillary filaments, with a cylindrical, tubular anthera.

4. PISTILLUM of the hermaphrodites conſiſts of an oboval germen, a filiforme ſtyle the length of the ſtamina, and two filiforme ſtigmas. In the female, it is ſimilar to that of the hermaphrodite.

5. PERICARPIUM. There is none.

6. SEMINA of the hermaphrodites is ſingle, oboval, and crowned with capillary ſeſſile down.

The receptacle is ſetoſe, the ſetæ being ſhorter than the calyx.

CHAP. IV.

ANDROMEDA.

ALTHOUGH there is no Engliſh name given to this genus, yet there is a ſpecies of it which has long gone by the name of Carolina Sorrel-tree.

The plant deſcribed. It grows to be twelve or fifteen feet high, ſending forth many ſlender branches, which hang downwards. The leaves are oblong, oval, pointed, and are placed alternately on the branches. The flowers are produced from the ſides of the branches in long naked ſpikes. They are greeniſh, of a roundiſh oval figure, come out in ſummer, but ſeldom are ſucceeded by ripe ſeeds in England.

Method of propagation. This ſpecies is propagated by ſowing the ſeeds, which ſhould be procured from America, in pots filled with fat earth from the beſt part of the kitchen-garden. The pots muſt be then plunged up to the rims in the mould laid on a hotbed for the purpoſe, and this will ſoon bring up the ſeeds. When the plants appear, they muſt have plenty of air, and be watered every day. When the heat of the bed is abated, each plant muſt have its ſeparate pot; which being done they muſt be plunged up to the rims on a ſecond hotbed; here they muſt be conſtantly ſupplied with water, and muſt be hardened by degrees to the air. When this is effected, they ſhould be taken up, and plunged up to the rims in a moiſt ſhady part of the garden. If the plants receive little moiſture from this ſituation, and dry weather ſhould happen, watering muſt be afforded them once a day all ſummer. At the end of October they ſhould be removed into the green-houſe, where they ſhould have plenty of air and frequent watering all winter, and the ſummer following they may be ſet abroad with other green-houſe plants; though the beſt way will be to plunge them up to the rims in a moiſt ſhady part of the garden, as before; for this plant grows naturally in a wet and boggy ſoil in America; and unleſs it meets here with ſomething of a ſimilar treatment, we can hardly expect it to make any conſiderable progreſs in this country.

Titles. Arborea. This ſpecies, called the Tree Andromeda, or Carolina Sorrel-tree, is titled, *Andromeda, racemis ſecundis nudis, corollis rotundo-ovatis.* Gronovius calls it, *Andromeda arborea, foliis oblongo-ovatis integerrimis, floribus paniculatis nutantibus, racemis ſimpliciſſimis*; and Cateſby, *Frutex foliis oblongis acuminatis, floribus ſpicatis, uno verſu diſpoſitis.* It grows naturally in Virginia and Carolina.

CHAP. V.

ANTHERICUM, SPIDER-WORT.

THE uſual names of the tender ſpecies of this genus are,

Species.
1. Onion-leaved Aloe.
2. Mock Aloe.
3. Mock Aſphodel.
4. Cape Aſpodel.

Deſcription of Onion-leaved 1. Onion-leaved Aloe is a plant of great ſingularity. From the root iſſue ſeveral ſhrubby branches, which contain diſtinct plants with ſucculent onion-like leaves, full of a yellow pulp or juice. The flowers are produced in long looſe ſpikes; their colour is yellow; they will blow at different times of the year, and often produce good ſeeds.

and Mock Aloe. 2. Mock Aloe. This hath long, fleſhy, flat, ſubulated leaves, like ſome of the Aloes; they lie flat on the ground and are very pulpy. The flowers grow from the root in looſe ſpikes, their colour is yellow, and they will be in blow at different times of the year.

Mock 3. Mock Aſphodel. This is a very low plant. The leaves are narrow, ſubulated, half-tapered, ſtriated, and pulpy. They grow cloſe together, and among them riſes a long, looſe ſpike of yellow flowers. Theſe will be in blow at different times of the year; and when this happens in the ſpring, the flowers are generally ſucceeded by good ſeeds.

and Cape Aſphodel; 4. Cape Aſphodel. The leaves of this plant are ſpear-ſhaped, moderately broad, compreſſed, ſtriated, rather fleſhy, and of a deep-green colour. The ſtalk is branching, and garniſhed with a few very ſmall narrow leaves. The flowers terminate the branches in long looſe ſpikes; their colour is white; they ſhew themſelves in different plants at all times of the year, and ſeldom fail of producing good ſeeds in plenty.

Culture of this laſt ſort. This laſt ſort is beſt propagated by ſeeds, for it increaſes but ſlowly by roots. Sow theſe in pots in the autumn, and place them all winter under an hotbed frame. In the ſpring they will come up, and in the autumn plant them in different pots. In the winter ſet them again under the frame, or remove them into the green-houſe; all which time give them very little water, which is apt at that ſeaſon to rot their roots. Let them have the care and management of tender

der plants the ſucceeding ſummer and following winter; and the ſpring or ſummer after that they will ſhew their flowers.

Culture of the other ſorts. All the others increaſe ſo faſt by offsets, that it is not worth while to ſow the ſeeds. In the autumn plant theſe in pots filled with good light ſandy earth. At the approach of winter remove them into the green-houſe, or place them under an hotbed frame. Wet is prejudicial to them; ſo that if they are watered in the winter, it muſt be but now and then, and but very ſparingly; and if they are kept dry, and ſheltered from hard froſt, it will be all the protection they will require.

Theſe plants will ſometimes live through a mild winter, in a ſandy, warm, well-ſheltered border; and they ſeem to do better under the protection of a hotbed frame, then when arranged in common with other plants in the green-houſe.

Titles. Frutescens. 1. Onion-leaved Aloe is titled, *Anthericum foliis carnoſis teretibus, caule fruticoſo.* Wachendorff calls it, *Anthericum cauleſcens, foliis pulpoſis teretibus ſubulatis ſupine convexo-planis*; Van Royen, *Bulbine cauleſcens*; and Dillenius, *Phalangium Capenſe cauleſcens, foliis cepitiis ſuccoſis.* It grows naturally at the Cape of Good Hope.

Aloides. 2. Mock Aloe. This is termed, *Anthericum foliis carnoſis ſubulatis planiuſculis.* Wachendorff calls it, *Anthericum foliis pulpoſis lanceolato-ſubulatis ſupine excavatis*; Van Royen, *Bulbine acaulis*; and Dillenius, *Phalangium Capenſe ſeſſile, foliis aloeformibus pulpoſis.* It grows naturally at the Cape of Good Hope.

Asphodeloides. 3. Mock Aſphodel. This is termed, *Anthericum foliis carnoſis ſubulatis ſemiteretibus ſtrictis.* Wachendorff calls it, *Anthericum acaule, foliis pulpoſis teretibus ſubulatis ſupine convexo-planis.* It grows naturally in Æthiopia.

Hispidum. 4. Cape Aſphodel. This is termed, *Anthericum foliis carnoſis compreſſis hiſpidis.* Miller calls it, *Aſphodelus caule ſeminudo ramoſo, foliis planis lanceolatis.* It grows naturally at the Cape of Good Hope.

CHAP. V.

ANTHOLYZA.

THERE are four ſpecies of this genus, called,

Species.
1. Ringent *Antholyza.*
2. Æthiopian *Antholyza.*
3. *Cunonia.*
4. *Meriana.*

Deſcription of Ringent 1. Ringent *Antholyza.* The root is bulbous, round, and covered with a reddiſh ſkin. The leaves are near a foot long, about half an inch broad, pointed, rough, furrowed, and have ſome reſemblance to thoſe of the Corn Flag. The ſtalk is round, hairy, and two feet high. The flowers come out on each ſide of the ſtalk near the top. They are of a red colour, appear in June, and the ſeeds ripen in September.

and Æthiopian Antholyza. 2. Æthiopian *Antholyza* alſo hath a near alliance to the Corn Flag. The leaves are long, narrow, pointed, and of a deep-green colour. The ſtalk is round, and a foot or more in height. The flowers are produced from the top of the ſtalk. They are large, and of a beautiful crimſon colour, appear in May and June, and the ſeeds ripen in September.

Cunonia 3. *Cunonia.* The leaves are long, narrow, pointed, and flaggy. The ſtalk grows to a foot and half high. The flowers come out from the top of the ſtalks in long diſtichous ſpikes. They appear in May and June, and the ſeeds ripen in Auguſt.

and Meriana deſcribed. 4. *Meriana.* The leaves of this are ſword-ſhaped, long, and narrow. The ſtalk is round, and a foot and half high. The flowers are of a red colour, and appear about the ſame time with the former.

Culture. Theſe ſpecies are propagated by parting of the roots, which ſhould be done in Auguſt or September, when the leaves and ſtalks decay. They ſhould be planted in pots filled with light earth, and ſhould be ſet in a good green-houſe for their winter lodgings.

They are alſo raiſed by ſeeds. Theſe ſhould be ſown in the autumn, ſoon after they are ripe, in pots filled with light rich earth. The pots muſt be ſet in the green-houſe during the winter, and in the ſpring the plants will come up. They will make but little progreſs for two or three years, ſo that they may remain undiſturbed in the pots all that time. They muſt afterwards be ſet each in a ſeparate pot, and be preſerved in a good green-houſe, or under a hotbed frame in winter, but may be ſet abroad in ſome warm well-ſheltered place in ſummer.

Titles. Ringens. 1. The firſt ſpecies is titled, *Antholyza corollæ labiis divaricatis fauce compreſſâ.* In the former edition of the *Species Plantarum* it is termed, *Antholyza ſtamine unico declinato.* Commeline calls it, *Gladiolo Æthiopico ſimilis planta anguſtifolia*; and Breynius, *Gladiolus floridus rictum referens coccineus: ſuprema lacinia erecta et fiſtuloſa.* It grows naturally in Æthiopia.

Æthiopica. 2. The ſecond ſpecies is, *Antholyza corollis incurvatis: labii quinquepartiti, lobis duobis alternis patulis majoribus lanceolatis.* Moriſon calls it, *Gladiolus Æthiopicus, flore coccineo*; and Plukenet, *Hyacinthus Africanus, foliis Colchici floribus coccineis.* It grows naturally in Æthiopia.

Cunonia 3. The third ſpecies is, *Antholyza corollis rectis: labii quinquepartiti lobis duobus extimis latioribus adſcendentibus.* It grows naturally in Perſia.

Meriana. 4. The fourth ſpecies is, *Antholyza floribus infundibuliformibus ſubæqualibus.* It grows naturally at the Cape of Good Hope.

Claſs and order in the Linnæan Syſtem. *Antholyza* is of the claſs and order *Triandria Monogynia*; and the characters are,

The characters. 1. CALYX. The ſpathæ are compoſed of two permanent valves.

2. COROLLA is one petal, which widens gradually from the tube to a large, compreſſed, and ringent mouth. The upper lip is very long, ſtrait, and ſlender, and has two ſhort ſegments

at the baſe. The lower lip is ſhort, and trifid.

3. STAMINA are three long, ſlender, filaments under the upper lip, having acute antheræ.

4. PISTILLUM conſiſts of a germen ſituated below the flower, a filiforme ſtyle the length and ſituation of the upper ſtamina, and a trifid, capillary, reflexed ſtigma.

5. PERICARPIUM is a roundiſh, three-cornered capſule, formed of three valves, and containing three cells.

6. SEMINA. The ſeeds are many, and triangular.

CHAP. VI.

ANTHOSPERMUM, AMBER-TREE.

Species. THERE are two ſpecies of this genus:

1. The Amber-Tree.
2. Ciliated *Anthoſpermum.*

Amber-Tree deſcribed. 1. The Amber-Tree. The ſtem is upright, ſtraight, and divides into numerous ſlender branches near the top. The leaves are ever-green, ſmall, ſmooth, and when bruiſed emit a moſt agreeable odour. The flowers come out from the ends and ſides of the branches; and the females are ſucceeded by ſeeds, which ſometimes ripen in England.

Ciliated Anthoſpermum deſcribed. 2. Ciliated *Anthoſpermum.* The ſtalks are woody, procumbent, and eight or ten inches long. The leaves are narrow, ſpear-ſhaped, keeled, and ciliated. The flowers come out from the wings of the leaves, ſitting cloſe, having no footſtalks; but they are ſeldom ſucceeded by ſeeds in England.

Culture. Theſe plants are propagated by cuttings planted in pots, filled with light rich earth, in any of the ſummer months. The pots ſhould be then ſet in the Green-houſe in the ſhade, and the cuttings ſhould be duly watered until they have taken root, which will be in a few weeks. When you perceive them to be in a growing ſtate, you ſhould bring them nearer the windows, that they may have more air; and when they are fully hardened, they ſhould be ſet abroad in ſome warm well ſheltered place, and in the autumn ſhould be taken into the Green-houſe; where they ſhould be ſtationed in a warm part of it, but ſhould have plenty of freſh air in all favourable ſeaſons.

The cuttings will grow, when planted in the full ground, if they are ſhaded and watered at firſt. When they are raiſed this way, each muſt be taken up with a ball of earth to the root, be planted in a ſeparate pot, and in the autumn be taken into the Green-houſe, like the others.

The firſt ſpecies is in high eſteem for its ſmall, elegant, and extremely fragrant leaves; the ſecond has little beauty, and has been but lately introduced into the Engliſh gardens.

Titles. 1. The firſt ſpecies is titled, *Anthoſpermum foliis lævibus.* Plukenet calls it, *Frutex Africanus ambaram ſpirans.* It grows naturally in Æthiopia.

Æthio=
=picum.
Ciliare

2. The ſecond is, *Anthoſpermum foliis carinâ margineque ciliatis.* Plukenet calls it, *Clinopodium Africanum procumbens, pſyllii foliis & capitulis cum calyculo lanugine veſtitis.* It grows naturally at the Cape of Good Hope.

Claſs and order in the Linnæan Syſtem. *Anthoſpermum* is of the claſs and order *Polygamia Dioecia*; and the characters are,

I. Male Flowers.

The characters. 1. CALYX is a monophyllous, conical perianthium, deeply cut into four oval, oblong, revoluted, obtuſe, coloured ſegments.

2. COROLLA. There is none.

3. STAMINA are four erect capillary filaments the length of the calyx, and inſerted in the receptacle, having didymous, oblong, ſquare, obtuſe, erect antheræ.

2. Androgynous.

1. The Male Flowers are in the above deſcription.

II. Female Flowers.

1. CALYX as in the male.

2. COROLLA as in the male.

3. PISTILLUM conſiſts of an oval four-cornered germen ſituated below the calyx, and two recurved ſtyles, with ſimple ſtigmas.

4. PERICARPIUM is a roundiſh capſule.

5. SEMINA. The ſeeds are many, and angular.

C H A P.

CHAP. VII.

ANTHYLLIS, JUPITER's BEARD.

Species.

OF the ſhrubby ſpecies of *Anthyllis* there are,
1. The Common *Barba Jovis*, or Silver Buſh.
2. The Dwarf Portugal *Barba Jovis*.
3. The Cretic *Barba Jovis*.
4. The Spaniſh Ternate-leaved *Anthyllis*.
5. The Shrubby Prickly *Anthyllis*.

Deſcription of Common Barba Jovis,

1. Common *Barba Jovis*, or Jupiter's Beard, is a ſhrub of admirable beauty. It will grow to be eight or ten feet high, and divides into ſeveral branches. The leaves are pinnated; the folioles of which they are compoſed are narrow, and of an unequal number; they are of a delicate ſilvery white colour, which has occaſioned this ſhrub to be called the Silver Buſh. The flowers terminate the ends of the branches in ſmall heads; their colour is a bright yellow; they will be in blow in June, and ſometimes are ſucceeded by ſhort downy pods, with ripe ſeeds.

Dwarf Portugal Barba Jovis,

2. Dwarf Portugal *Barba Jovis*. This is a low, procumbent plant; the branches are round and hoary; the leaves are pinnated, and are compoſed of ſeveral ſpear-ſhaped, acute, ſilvery lobes, which are placed by pairs, and are terminated by an odd one. The flowers are ſmall and variegated, will be in blow in July, but ſeldom produce good ſeeds with us.

Cretic Barba Jovis,

3. The Cretic *Barba Jovis*. This is a low, branching, ſpinous ſhrub, about two feet high. The leaves are hoary, and grow by threes on very ſhort footſtalks. The flowers are ſmall and yellow, and are produced from the ſides of the branches, on very ſhort footſtalks. They are uſually four at a joint, will be in blow in July, but are ſeldom ſucceeded by good ſeeds with us.

Spaniſh Ternate-leaved Anthyllis,

4. Spaniſh Ternate-leaved *Anthyllis*. This is a ſhrub about two feet high. The branches are numerous and hoary. The leaves alſo are hoary, and each of them is compoſed of three oval lobes, the middle one being longer than the other two. The flowers are produced from the wings of the leaves; their colour is yellow, and two for the moſt part are produced together: They will be in blow in June or July, and ſeldom produce good ſeeds in theſe parts. There is a variety with white flowers.

and Shrubby Prickly Anthyllis.

5. The Shrubby Prickly *Anthyllis*. This will grow to be eight or ten feet high. The branches are numerous, and full of ſharp ſpines, like ſome ſorts of the furze-buſh. The leaves are ſingle, downy, and of an oblong oval figure; the flowers are of a kind of bluiſh purple colour, and are ſometimes ſucceeded by good ſeeds in England.

Culture.

All theſe ſorts, except the laſt, are eaſily propagated by cuttings; the latter end of May, or beginning of June, is a good ſeaſon for the work. They ſhould be planted in a moiſt, rich, light, ſhady border, and in ſuch a ſituation they will readily ſtrike root. In the autumn they ſhould be planted each in a ſmall pot, and at the approach of bad weather muſt be removed into the Green-houſe, with other tender plants. As the plants increaſe in ſize, they muſt have larger pots; and if you have plenty of them, a few of each may be ſet abroad in a warm, dry, ſandy, well ſheltered place, for they will often live through our winters in ſuch a ſituation, if they ſhould not happen to prove very ſevere; and when they do ſurvive, their value is enhanced by the ſweet effect of the mixture of their ſilvery leaves with other plants.

They are alſo propagated by ſeeds. Theſe ſhould be ſown, in the ſpring, on a moderate hot-bed, to bring them forward. When the plants come up, they muſt have much air, frequent waterings, and, in ſhort, muſt be uſed as hardily as poſſible: This will prevent their drawing up weak, and will cauſe them to ariſe firm and ſtrong. When the plants are about ſix inches high, they ſhould be taken out of the hot-bed, with a ball of earth to each plant, and ſet in ſeparate pots: At this time they ſhould have a good watering, and the pots ſhould be plunged up to the rims in ſome ſhady part of the garden. In the autumn they muſt be removed into the Green-houſe, and as the plants increaſe in ſize, muſt have larger pots, and the regular management of Green-houſe plants.

The neateſt plants are always raiſed by ſeeds; and this method is more eſpecially to be practiſed for the Shrubby Prickly *Anthyllis*, which is with difficulty raiſed any other way.

Titles.

1. Common *Barba Jovis*, or Silver Buſh. This is titled, *Anthyllis fruticoſa, foliis pinnatis æqualibus, floribus capitatis*. Caſpar Bauhine calls it, *Barba Jovis*. John Bauhine, *Barba Jovis pulchrè lucens*. It grows naturally in Italy, Spain, and in ſome parts of the Eaſt.

Barba Jovis.

2. Dwarf Portugal *Barba Jovis*. This is titled, *Anthyllis fruticoſa, foliis pinnatis, floralibus ternatis*. Tournefort calls it, *Barba Jovis minor Luſitanica, flore minimo variegato*. It grows naturally in Portugal and Spain.

Hetero-phylla.

3. *Barba Jovis* of Crete. This is titled, *Anthyllis fruticoſa, foliis ternatis ſubpedunculatis, calycibus nudis*. In the *Hortus Cliffort.* it is called, *Dorycnium foliis ſolitariis, floribus ad alas confertis*. Tournefort calls it, *Barba Jovis Cretica, linariæ folio, flore luteo parvo*. Rivinus calls it, *Barba Jovis Cretica*; and Alpinus, *Spartium ſpinoſum*. It grows naturally in Crete, Greece, and Paleſtine.

Hermannia.

4. Spaniſh Ternate-leaved *Anthyllis*. This is titled, *Anthyllis fruticoſa, foliis ternatis inæqualibus, calycibus lanatis lateralibus*. In the *Hortus Upſal.* it is termed, *Anthyllis fruticoſa, foliis ternatis, intermedio productiore*. Van Royen calls it, *Cytiſus foliis ovatis acutis nitidis, floralibus lateralibus*; Caſpar Bauhine, *Cytiſus incanus, folio medio longiore*; Cluſius, *Cytiſus V*; and Barrelier, *Spartium latifolium, parvo flore*. It is a native of Spain.

Cytisoides.

5. Shrubby Prickly *Anthyllis* is titled, *Anthyllis fruticoſa ſpinoſa, foliis ſimplicibus*. Caſpar Bauhine calls it, *Geniſta Spartium ſpinoſum, foliis lenticulæ, floribus ex cæruleopurpura-ſcentibus*; and Cluſius, *Erinacea*. It grows naturally in Spain.

Erinacea.

CHAP.

CHAP. VIII.

ARCTOTIS.

THERE is no Engliſh name for this genus; ſo that we will call the ſpecies proper for this place,

Species.

1. The Golden *Arctotis.*
2. The Narrow-leaved *Arctotis.*
3. The Plantain-leaved *Arctotis.*
4. The Sea Ragwort-leaved *Arctotis.*
5. The Dwarf *Arctotis.*

Golden Arctotis deſcribed. 1. Golden *Arctotis.* This ſpecies hath a thick, tender, ſpungy, branching ſtalk, that will riſe to about four feet high. The leaves are large, oblong, and ſinuated or jagged in ſuch a manner as to form a kind of winged leaf. The flowers are produced at the ends of the branches, a ſingle flower terminating each ſtalk; they are large, and radiated; their colour is a fine yellow, but the rays are paler.

Varieties. There is a variety of it with crimſon flowers, and another whoſe rays are of a fine purple colour on their out-ſide. They will flower in the ſummer, and continue their blow in the green-houſe all winter.

Deſcription of Narrow-leaved, 2. Narrow-leaved *Arctotis* hath a thick, tender, branching ſtalk, that will grow to be four feet high. The leaves are very narrow, ſtiff, ſpear-ſhaped, and indented on the ſides. The flowers are large, having the inſide of the rays of a pale-yellow, but the outſide of a red-colour; and they will be in blow the greateſt part of the year.

Plantain-leaved, 3. Plantain-leaved *Arctotis.* The ſtalk is thick, tender, and branching. The leaves are of a lanceolate, oval figure, and very much ribbed, like thoſe of Plantain; they are indented, and embrace the ſtalk with their baſe. The flowers are large, and their rays are of a golden-yellow colour on the inſide, but tawny without; they will often ſhew themſelves at all ſeaſons of the year.

Sea Ragwort-leaved, 4. Sea Ragwort-leaved *Arctotis.* The ſtalk is tender, thick, branching, and will grow to be upwards of five feet high. The leaves are oval, indented, hoary, and a little reſemble thoſe of Sea Ragwort. The flowers grow on very long footſtalks, are of a ſulphur colour, will be in blow in ſummer, and continue the ſucceſſion in the green-houſe all winter. This ſpecies is called by many Gardeners African *Jacobæa.*

and Dwarf Arctotis. 5. Dwarf *Arctotis.* There are three or four ſorts of this ſpecies that have no ſtalks, except the footſtalks of the flower. The leaves are ribbed, white on their under-ſide, ſinuated, have long footſtalks, and grow immediately from the root. Among them the flowers ariſe on footſtalks about four or five inches long. Though theſe footſtalks are but ſhort, the flowers they ſupport are large and fine. There are the Pale-yellow, the Golden-yellow, and others of different tints: They will be in blow in April or May, when they will ſhew themſelves to be worthy of a place in the choiceſt collection of plants.

Propagation of the laſt ſort. The laſt ſort is beſt propagated by ſeeds; and in order to have them good, the plants muſt be entirely ſet abroad all the time they are in flower, and until the ſeed is perfected; for I never knew them afford ſeeds, if kept too long in the green-houſe. Theſe muſt be ſown, in the uſual way, in a good, rich, moiſt, ſhady border; and when the plants are of proper ſize, they muſt be potted, and removed into the green-houſe at the approach of bad weather.

Propagation of the other ſorts. All the other ſorts are eaſily propagated by cuttings. Theſe will grow, if planted in any of the ſummer-months; and the greateſt trouble they will occaſion, will be to keep them within due bounds; for in ſummer, if a wet ſeaſon happens, they will in a few weeks become ſo very luxuriant and rambling, as to overſpread moſt of the green-houſe plants that are near them: And let the weather be what it will, their roots will find a way, if poſſible, through the holes at the bottom of the pots, will ſtrike into the ground, and occaſion the plants growing out of all bounds or order. The cuttings, therefore, muſt be planted in pots filled with not the richeſt ſort of ſoil, the holes at the bottoms being well ſtopped, that the moiſture only can drain off; and they muſt be then ſet in the ſhade, and watered until they have taken root. After that, they muſt be ſet among other green-houſe plants, obſerving to place each pot upon a large ſlate or tile, to prevent the roots from penetrating into the ground.

Though water occaſions theſe plants to grow out of all bounds, yet they muſt duly have it in ſmall quantities; for you will find, that ſcarcely any plants droop ſooner under the want of it.

Proper height of training them. Theſe plants ſhould be trained to be about a yard high for the green-houſe, in which place they will have a very good effect by their flowers, which they will continue to produce all winter.

Titles. 1. The Golden *Arctotis* is titled, *Arctotis floſculis radiantibus fertilibus, foliis pinnato-ſinuatis villoſis, laciniis oblongis dentatis.* Vaillant calls it, *Arctotheca Jacobææ folio, radiis florum intus luteis, extus purpureis*; Commeline, *Anemonoſpermos Africana, foliis cardui benedicti, florum radiis intus ſulphureis*; Boerhaave, *Anemonoſpermos Africana, folio Jacobææ tenuiter laciniato, flore aurantio pulcherrimo.* It grows naturally in Æthiopia. Aspera.

2. Narrow-leaved *Arctotis* is titled, *Arctotis floſculis radiantibus fertilibus, foliis lanceolatis integris dentatis.* Boerhaave calls it, *Anemonoſpermos Afra, folio ſerrato rigido, flore intus ſulphureo, extus puniceo.* It grows naturally in Æthiopia. Angusti-folia.

3. Plantain-leaved *Arctotis* is, *Arctotis floſculis radiantibus fertilibus, foliis lanceolato-ovatis nervoſis denticulatis amplexicaulibus.* Boerhaave calls it, *Anemonoſpermos Afra, folio plantaginis, florum radiis intus aureis, extus fuſcis.* It grows naturally at the Cape of Good Hope.

4. Sea Ragwort-leaved *Arctotis* is, *Arctotis floſculis radiantibus ſterilibus duodenis ſubintegris, foliis lyratis nigro-denticulatis.* In the *Hortus Cliffort.* it is termed, *Arctotis foliis ovatis dentatis, petiolis longiſſimis ſupernè dentatis, caule ramoſo.* Herman calls it, *Anemone affinis Æthiopica, fibroſâ radice, flore aſteris, taraxaci foliis ſubincanis*; Commeline, *Anemonoſpermos Africana, Jacobææ maritimæ foliis, flore ſulphureo.* It grows naturally in Æthiopia. Calendula.

5. Dwarf *Arctotis* is, *Arctotis pedunculis radicalibus, foliis lyratis.* Commeline calls it, *Anemonoſpermos Africana, folio plantaginis, flore ſulphureo.* It grows naturally at the Cape of Good Hope. Acaulis.

CHAP. IX.

ARISTOLOCHIA, BIRTHWORT.

UNDER the protection of a common green-houſe will flouriſh,

Species.

1. The Ever-green Birthwort of Crete.
2. The *Piſtolochia*, or Small Birthwort.
3. The Virginian Shrubby Birthwort.

Ever-green Birthwort of Crete deſcribed.

1. The Ever-green Birthwort of Crete has many ſlender, weak, angular, trailing branches, about a foot and a half long. The leaves are heart-ſhaped, oblong, waved on their edges, and continue green all winter. The flowers are long, crooked, grow ſingly from the wings of the leaves, and are of a dark-purple colour; they never produce any ſeeds in theſe parts.

Deſcription of Piſtolochia

2. *Piſtolochia* Birthwort. The ſtalks are very weak, ſlender, trailing, and branching. The leaves grow on footſtalks, are heart-ſhaped, and their edges are a little indented. The flowers are produced ſingly from the wings of the leaves: The plants ſeldom fail to exhibit them at the time of blow, but do not often bring their ſeeds to perfection with us.

and Virginian Shrubby Birthwort.

3. Virginian Shrubby Birthwort. This ſpecies is rather improperly named; for the branches can ſcarcely be ſaid to be woody: However, they are firm, upright, and will grow to upwards of two feet high. The leaves are heart-ſhaped, but long, and are inclined to a lanceolate figure. The flowers are produced ſingly from the wings of the leaves, and in ſome ſeaſons will bring their ſeeds to perfection.

Culture.

This laſt ſpecies is eaſily propagated by ſeeds produced in our own country; but the ſeeds of the others ſhould be procured from the places where they grow naturally. If they are ſown in the autumn (which is the beſt time), they ſhould be ſown in pots, and placed under an hotbed frame all winter. About the middle of March they ſhould be plunged into a moderate hotbed; and the plants may be expected to appear by the beginning of May, at which time they muſt have frequent but gentle waterings, to prevent their drawing weak. When the plants are about four inches high, they ſhould be planted each in a ſeparate pot, which ſhould be placed on a freſh hotbed, filling the vacancies with common garden-mould. In hot weather, they muſt be always ſhaded, and watered every other day; and when the plants have taken root, the glaſſes muſt be removed. Here they may ſtand until the end of autumn, when they ſhould be removed into the green-houſe, and placed near the windows or doors, that they may have as much air as poſſible.

Theſe plants are alſo encreaſed by parting of the roots. The ſpring before they begin to ſhoot is a good time for the work. Each ſhould be ſet in a ſmall pot; and if they have the advantage of a moderate warmth of dung, it will greatly forward their growth. The third ſpecies will frequently grow by cuttings; to effect which with ſucceſs, they muſt be duly watered, and conſtantly ſhaded until they have taken root.

All theſe ſpecies are moderately hardy, eſpecially the third, and in mild winters they will live abroad in the open air; ſo that if you have plenty of plants, a few ſhould be ſet out in a warm, well-ſheltered place, where, if they ſucceed, they will flower ſtronger and better than thoſe preſerved in the green-houſe.

Titles.

Semper-virens.

1. Ever-green Birthwort of Crete is titled, *Ariſtolochia foliis cordato-oblongis undatis, caule infirmo, floribus ſolitariis.* In the *Hortus Cliffort.* it is termed, *Ariſtolochia caulibus infirmis, foliis cordato-oblongis undulatis, floribus recurvis ſolitariis pendulis.* Caſpar Bauhine calls it, *Piſtolochia Cretica*; and Cluſius, *Piſtolochia altera.* It is a native of Crete.

Pistolochia.

2. *Piſtolochia* Birthwort is, *Ariſtolochia foliis cordatis crenulatis ſubtus reticulatis petiolatis, floribus ſolitariis.* In the *Hortus Cliffort.* it is termed, *Ariſtolochia caule infirmo ramoſo, foliis cordatis obſolete dentatis, floribus ſolitariis erectis.* Caſpar Bauhine calls it, *Ariſtolochia Piſtolochia dicta*; and Cluſius, *Piſtolochia.* It grows naturally in France, Italy, and Spain.

Arborescens.

3. Virginian Tree Birthwort is, *Ariſtolochia foliis cordato-lanceolatis, caule erecto fruticoſo.* Plukenet calls it, *Ariſtolochia polyrhizos, auriculatis foliis, Virginiana.* It grows naturally in ſeveral parts of America.

CHAP. X.

ARNICA.

Arnica.

WE muſt not wholly paſs by *Arnica* in this place. There is one ſpecies of it that cauſes a pretty variety, and requires only the common protection of the green-houſe to keep it in order. It goes by various names, but is moſtly called the Æthiopian Perennial *Arnica.*

Deſcription of it.

It admits of two diſtinct varieties; one has a fine yellow flower, the other is a purple; and both have great beauty.

The leaves are of an oval figure, ſmooth, ſtiff, and ſpring immediately from the roots. Their upper ſurface is ſmooth, and of a fine-green colour; they are downy underneath, and have their edges indented. Among theſe leaves ariſes the flower-ſtalk, which is naked, and terminated by one large radiate compound flower. One of the varieties is a deep yellow, and not much unlike the Dandelion, which would never be thought a bad flower, if it was very ſcarce; the other is of a purple colour, and both of them are ſucceeded by oblong, light ſeeds, crowned with down.

Culture.

Theſe plants are eaſily raiſed by ſowing of the ſeeds, or parting of the roots. The roots ſhould be planted early in the autumn in pots; they ſhould be duly watered and ſhaded, until they have taken root; at the uſual ſeaſon they ſhould be removed into the Green-houſe, with others of the like nature; and in winter they ſhould have as much free air as poſſible, for it is only protection from froſts that they require.

The ſeeds are beſt ſown in pots in the autumn. Theſe pots ſhould be placed under a hot-bed frame, to be covered in bad weather all winter; and in the ſpring ſhould be plunged up to the rims in a warm ſhady part of the garden, but not under the drip of trees. When the plants come up, you muſt conſtantly keep them clean from weeds, and frequently refreſh them with water; and this is the only trouble they will require all ſummer. The beginning of September, they ſhould be planted each in a ſeparate pot, be watered and ſhaded until they have taken root, and at the uſual time be removed into the Green-houſe, and managed as the others.

Titles. Crocea.

This ſpecies is titled, *Arnica foliis ovalibus ſerrato-denticulatis ſubtus tomentoſis.* Burman calls it, *Gerbera foliis planis dentatis, flore purpureo*; alſo, *Carlina foliis latis ad oras ſpinis dentatis, flore aureo*; Petiver, *Dens leonis enulæ folio*; Plukenet, *Doronici forte ſpecies pumila, auriculæ urſi folio glabro, flore ſaturate croceo*; and Vaillant, *Tuſſilago pyrolæ folio.* It grows naturally in Æthiopia.

CHAP. XI.

ARTEMISIA, MUGWORT.

THE following ſpecies muſt be well protected from the ſeverity of our winters:

Species.

1. The Shrubby Æthiopian Wormwood.
2. The Cape Sweet-ſcented *Artemiſia.*

Shrubby Æthiopian Wormwood deſcribed.

1. The Shrubby Æthiopian Wormwood will grow to about ſix feet high. The ſtalk is woody, branching, and downy. The leaves alſo are downy; they are very narrow, and grow in cluſters on the branches. The flowers are nothing extraordinary; they grow in roundiſh heads, and are not much unlike thoſe of the Common Wormwood.

Cape Sweet-ſcented Artemiſia deſcribed.

2. The Cape Sweet-ſcented *Artemiſia.* This hath a weak ſhrubby ſtalk, garniſhed with very narrow, undivided leaves, growing together in cluſters. The flowers are produced in ſpikes from the ends of the branches; they are round, whitiſh, and are ſucceeded by naked ſeeds.

Culture.

Theſe plants are eaſily propagated by cuttings. Plant them in any of the ſummer months in pots, filled with good light ſandy earth, and immediately place them in the ſhade; tho' the beſt way will be to remove them into the Green-houſe, where no ſun may come at them, and they will the ſooner ſtrike root. They muſt be duly watered; and when they have begun to grow, they muſt be taken out of the Green-houſe, or they will ſoon be drawn weak, and be ſpoiled: Set the pots, therefore, after the plants have taken good root, in ſome ſhady part of the garden; give them water regularly, as you find they require it; and in October remove them into the Green-houſe, and place them where they may have as much air as poſſible.

Theſe make a pretty variety in the Green-houſe, by their hoary appearance; and the leaves, when bruiſed, emit an odour, which by many is thought very agreeable.

Titles.

1. The Shrubby Æthiopian Wormwood is titled, *Artemiſia foliis linearibus confertis minimis diviſis, caule fruticoſo tomentoſo.* Ray calls it, *Abrotanoides Africanum, foliis cinereis muſcoſis, capitulis florum globoſis magnis*; and Tournefort, *Abſinthium Africanum arboreſcens, folio vermiculatæ incano.* It grows naturally in Æthiopia. Æthiopica.

2. Cape Sweet-ſcented *Artemiſia.* This is titled, *Artemiſia foliis linearibus indiviſis aceroſis, ſpicis terminalibus, calycum foliolis intimis coloratis, caule fruticoſo.* Commeline calls it, *Frutex Africanus aromaticus, flore ſpicato exiguo.* It grows naturally at the Cape of Good-Hope. Ambigua

CHAP. XII.

ASCLEPIAS, SWALLOW-WORT.

Species.

OUR Green-houſes rejoice in a ſpecies of *Aſclepias*, that admits of three or four varieties. This ſpecies is uſually called Shrub *Aſclepias*.

Varieties.

The principal varieties of it are,

The Smooth Willow-leaved Shrub *Aſclepias*.

The Smooth Linear Spear-leaved Shrub *Aſclepias*.

The Hairy Broad-leaved Shrub *Aſclepias*.

The Oblong Oval-leaved Shrub *Aſclepias*.

All theſe are elegant plants, and their difference, with reſpect to their leaves, is the chief variety they cauſe.

Shrub Aſclepias deſcribed.

The Shrub *Aſclepias* will grow to be ſix or eight feet high. The ſtem is woody, and covered with a brown bark; it divides into numerous branches, of a fine green colour, tinged frequently with a ſtain of red or purple. The leaves differ according to the above titles, but the moſt common are long, ſmooth, and narrow; they grow by pairs at the lower part of the branches; but higher they often grow ſingly; they are of a faint green colour, and their edges are frequently waved. From the wings of the leaves grow the flowers in umbels, ſtanding on long footſtalks; their colour is white, tho' tinged ſometimes with yellow, or a duſky green: Each flower has its ſeparate longiſh pedicle, and being looſely placed on the common footſtalk, the umbel naturally droops a little. They uſually flower about June or July, and there will be often a ſucceſſion of the flowers, until late in the autumn.

The pods that ſucceed them, will be exceedingly large and ſwelling, and will frequently contain good ſeeds, if removed early enough into the Green-houſe.

Culture.

Theſe plants are eaſily propagated by the cuttings or the ſeeds, for they may be readily increaſed. By cuttings they are raiſed with the leaſt trouble; but when the ſeeds are ſown, the handſomeſt plants are pretty certain of being obtained.

The cuttings ſhould be planted in large boxes, filled with good rich earth, in June or July; the boxes ſhould then be removed into the Green-houſe, the windows being conſtantly kept open, and ſet where the ſun cannot come near them: They muſt have conſtant ſupply of water, and they will readily ſtrike root. When you find this effected, they muſt be taken out of the Green-houſe, or they will ſoon draw up weak, and be placed in a ſhady part of the Garden; and in the autumn, they ſhould be removed into the Green-houſe for their winter-lodgings. In the ſpring each plant ſhould be ſet in a ſeparate pot, preſerving a ball of earth to the root; and their after-management ſhould be the ſame as other common Green-houſe plants.

They are alſo eaſily raiſed by ſeeds. Sow theſe on an hot-bed in the end of March, and when the plants come up, water them frequently, and uſe them to the air; and when all danger from bad weather is over, let the glaſſes be entirely taken away, and the plants ſhaded with mats from the heat of the ſun in the day, and continued through the night, if there be the appearance of a froſty evening.

About July or Auguſt each plant ſhould be ſet in a diſtinct pot; which being done, the pots ſhould be plunged up to the rims in a ſhady place, where they may ſtand until they are removed into the Green-houſe for the winter, with other plants.

Sowing of the ſeeds or planting cuttings ſhould not be neglected, as the plants are often of ſhort duration, frequently going off after they have flowered ſtrong a ſeaſon or two.

Titles. Fruticosa.

This ſpecies is titled, *Aſclepias foliis revolutis lanceolatis, caule fruticoſo*. In the *Hortus Cliffort.* it is termed, *Aſclepias caule erecto fruticoſo, foliis lanceolatis, umbellis nutantibus, conceptaculis inflatis piloſis.* Herman calls it, *Apocynum erectum Africanum, villoſo fructu, ſalicis folio*; and Plukenet, *Apocynum erectum elatius, ſalicis anguſto folio, folliculis piloſis.* It grows naturally in Æthiopia.

CHAP. XIII.

ASPALATUS, AFRICAN BROOM.

Species.

OF this genus are,

1. Aſparagus African Broom.
2. Juniper African Broom.
3. Thyme-leaved African Broom.
4. Heath-leaved African Broom.
5. Silvery African Broom.
6. One-flowered African Broom.
7. Indian *Aſpalatus*.
8. Cretan *Aſpalatus*.

Aſparagus African Broom deſcribed.

1. Aſparagus African Broom. The ſtem is woody, divides into many ſlender branches, and grows to about three feet high. The leaves are awl-ſhaped, ſharp-pointed, rough, and grow in cluſters. The flowers come out in roundiſh cluſters from the ends of the branches, are of a yellow colour, appear in July, but are ſeldom ſucceeded by ſeeds in England.

Juniper African,

2. Juniper African Broom. The ſtalk is woody, hairy, ſends forth many branches from the ſides, and grows to about a yard high. The leaves are awl-ſhaped, ſmooth, prickly-pointed, and grow in cluſters. The flowers are produced thinly from the ends and ſides of the branches, are of a deep yellow colour, appear in July, but are ſeldom ſucceeded by ſeeds in England.

Thyme-leaved African,

3. Thyme-leaved African Broom. The ſtalk is woody, branching, and two or three feet high. The leaves are awl-ſhaped, very ſhort, ſmooth, of a ſplendid green colour, and grow in cluſters. The flowers are produced alternately from the ſides of the branches, are of a yellow colour, and appear about the ſame time with the former.

Heath-leaved African,

4. Heath-leaved African Broom. This alſo is a low, branching ſhrub. The leaves are awl-ſhaped, hairy, and grow in cluſters. The flowers are produced alternately along the ſides of the branches, are ſmall, of a yellow colour, appear in July and Auguſt, but are rarely ſucceeded by pods in theſe parts.

Silvery African,

5. Silvery African Broom. The ſtem is woody, divides into ſeveral ſlender, hoary branches, and grows to be four feet high. The leaves are narrow, ſilky, white, and grow by threes on the branches. The flowers are produced but thinly along the ſides of the branches, are of a yellow colour, downy, appear in Auguſt and September, but are rarely ſucceeded by ſeeds in England.

and One-flowered African Broom deſcribed.

6. One-flowered African Broom. The ſtalk is woody, and ſends forth branches alternately from the ſides. The leaves are narrow, ſhort, taper, ſmooth, and grow in cluſters. The flowers come out ſingly from the ends of the branches, are large, of a yellow colour, downy, and appear in Auguſt and September.

Indian

7. Indian *Aſpalatus* grows to be five or ſix feet high. The leaves grow by fives, and ſit cloſe to the ſides of the branches. The flowers come out ſingly on long footſtalks, are of a pale-red colour, appear in Auguſt and September, but are rarely ſucceeded by pods in England.

and Cretan Aſpalatus deſcribed.

8. Cretan *Aſpalatus* grows to be ten or twelve feet high. The leaves are wedge-ſhaped, ſmooth, and grow by threes. The flowers come out in cluſters from the ends and ſides of the branches, are of a yellow colour, and appear about the ſame time with the former.

Culture.

All theſe ſorts are raiſed from ſeeds; but as they rarely ripen in England, they muſt be procured from the countries where they grow naturally. Having obtained ſome good ſeeds of the different ſorts, ſow them in pots filled with light earth, as ſoon as they arrive; then ſet them in the Green-houſe to protect them from the froſt, and in the ſpring give them the aſſiſtance of a ſlight hotbed, which will effectually bring up the ſeeds. At this time they muſt have frequent, though ſlight waterings; all poſſible air, as the weather will permit, muſt be granted them; and when the plants are about three inches high, each muſt be ſet in a ſeparate pot: The pots muſt be again plunged up to the rims in a hotbed, and the plants watered and ſhaded until they have taken root. After this they muſt be hardened by degrees to the open air; and when that is effected, muſt be ſet abroad in ſome warm well-ſhelter place. There they may remain until the autumn, and be then taken into the Green-houſe for their winter-lodgings.

Titles.

Chenopoda.

The firſt ſpecies is titled, *Aſpalatus foliis faſciculatis ſubulatis mucronatis hirtis; floribus capitatis hirſutiſſimis.* Herman calls it, *Geniſta Africana lutea, floribus hirſutis in capitula lanuginoſa conglobatis, foliis corrudæ aculcatis ſubhirſutis*; and Breynius, *Chamælarix, J. Chenopoda Monomopatenſis.* It grows naturally in Æthiopia.

Astroites.

The ſecond ſpecies is, *Aſpalatus foliis faſciculatis ſubulatis mucronatis glabris; caulè villoſo, floribus ſparſis.* Plukenet calls it, *Geniſta aſtroites, juniperinis pungentibus foliis, Æthiopica, floribus ſaturatè luteis.* It grows naturally in Æthiopia.

Thymifolia.

The third ſpecies is, *Aſpalatus foliis faſciculatis ſubulatis inermibus glabris breviſſimis, floribus alternis.* Plukenet calls it, *Geniſta minima Æthiopica, foliis thymi confertis ſplendentibus glabris.* It grows naturally in Æthiopia.

Ericifolia

The fourth ſpecies is, *Aſpalatus foliis faſciculatis ſubulatis inermibus hirſutis, floribus alternis, calycibus linearibus.* Plukenet calls it, *Geniſta Æthiopica non ſpinoſa, foliis ericæ villoſis, floribus parvis ſpicatis luteis: calycibus longioribus immerſis.* It grows naturally in Æthiopia.

Argentea.

The fifth ſpecies is, *Aſpalatus foliis trinis linearibus ſericeis, ſtipulis ſimplicibus mucronatis, floribus ſparſis tomentoſis.* Plukenet calls it, *Cytiſus Africanus anguſtifolius ſericeâ lanugine argentatus, ſpicâ lagopoide.* It grows naturally in Æthiopia.

Uniflora.

The ſixth ſpecies is, *Aſpalatus foliis faſciculatis linearibus inermibus, ſtipulis acutis perſiſtentibus, floribus ſolitariis, calycibus laciniis cymbiformibus.* Plukenet calls it, *Geniſta Æthiopica glabra, longioribus foliis ex uno puncto plurimis, flore majore luteo.* It grows naturally in Æthiopia.

Indica.

The ſeventh ſpecies is, *Aſpalatus foliis quinatis ſeſſilibus, pedunculis unifloris.* Plukenet calls it, *Lotus tenuifolius Maderaſpatanus, ſiliquâ ſingulari glabrâ*; and Ray, *Dorycnium Indicum, floribus ſingularibus rubris in pedicellis oblongis, ſiliquis perexiguis.* It grows naturally in India.

The eighth ſpecies is, *Aſpalatus foliis trinis cuneiformibus glabris: lateralibus brevioribus, ſtipulis obſoletis, floribus congeſtis.* Zanoni calls it, *Geniſta arborea Cretica, foliis ſempervirentibus.* It grows naturally in Æthiopia.

Claſs and order in the Linnæan Syſtem.

Aſpalatus is of the claſs and order *Diadelphia Decandria*; and the characters are,

The characters.

1. Calyx is a monophyllous perianthium deeply cut into five acuminated, equal ſegments, the upper ſegment being the longeſt.

2. Corolla is papilionaceous.

The vexillum is compreſſed, riſing, oboval, obtuſe-pointed, and uſually hairy on the outſide.

The alæ are moon-ſhaped, obtuſe, ſpreading, and ſhorter than the vexillum.

The carina is bifid, and ſimilar to the alæ.

3. Stamina are ten riſing filaments joined together at their baſe, but they divide upwards longitudinally, having oblong antheræ.

4. Pistillum conſiſts of an oval germen, a ſimple riſing ſtyle, and an acute ſtigma.

5. Pericarpium is an oval pod.

6. Semina. The ſeeds are uſually two, and kidney-ſhaped.

CHAP. XIV.

ASPARAGUS.

WHILE the eatable Aſparagus is plentifully ſtationed in our Kitchen Garden, the other ſpecies may figure among the plants in the Green-houſe: Theſe are,

Species.

1. Briſtly-leaved African Aſparagus.
2. Larch-leaved African Aſparagus.
3. Aſiatick Aſparagus.
4. White Spaniſh Aſparagus.
5. Acute-leaved Portugal Aſparagus.
6. Prickly Aſparagus of Crete.
7. Cape Aſparagus.
8. Hooked-leaved Aſparagus of Ceylon.
9. Great Prickly Aſparagus of Ceylon.
10. Indian Aſparagus.

Briſtly-leaved African, 1. Briſtly-leaved African Aſparagus ſends from the root ſeveral tough upright branches: Theſe put forth ſeveral ſlender ſide-branches, which decline downwards. The leaves are briſtly, and not much unlike thoſe of the Garden Aſparagus; they continue green all the year, and have a pretty effect in the Green-houſe in the winter-ſeaſon. The flowers, like all thoſe of Aſparagus, are inconſiderable, as it ſeldom produces ſeeds in our gardens; but it is eaſily encreaſed by parting of the roots, the beſt time for doing which is April.

Larch-leaved African, 2. Larch-leaved African Aſparagus. This will grow to be eight or nine feet high. The ſtalks are ſhrubby, crooked, irregular, and put out ſeveral weak ſide-branches: Theſe are armed with ſharp ſpines, which grow ſingly under the leaves. The leaves are produced in cluſters, like thoſe of the larch-tree; they are long, narrow, and ſpread themſelves in a ſtar-like manner; they continue green all winter, which makes this ſpecies ſought after by ſome. It ſeldom produces ſeeds in England, but is eaſily propagated by parting of the roots, the beſt time for which is April.

tick, 3. Aſiatick Aſparagus. This hath ſeveral erect ſtalks, that are armed with ſharp thorns, growing ſingly under the leaves in the alternate way. The ſide-branches are numerous, and exceeding narrow. The leaves grow in bunches, and continue green all the year. It ſeldom produces ſeeds with us, and is uſually propagated by parting of the roots, like the others.

White Spaniſh, 4. White Spaniſh Aſparagus. This will often grow to upwards of four feet high. The ſtalks are woody, and are covered with a white bark. The leaves grow in bunches, and under each tuft is placed a ſingle ſharp thorn; it is hardy enough to live through our mild winters, if planted abroad in a well-ſheltered place.

and Acute-leaved Portugal Aſparagus deſcribed. 5. Acute-leaved Portugal Aſparagus. The ſtalks alſo of this ſpecies are white, ſhrubby, crooked, and will grow to about four feet high. They have no ſpines like the others, but the leaves grow in ſmall tufts. They are exceeding ſharp-pointed, and will fetch blood, if not handled with caution. This ſort frequently produces ſeeds, by which young plants may be eaſily raiſed.

Prickly Aſparagus of Crete, 6. Prickly Aſparagus of Crete. This hath tough ligneous ſtalks, that will grow to be about four feet high. There are no leaves, but inſtead of them ſmall bunches of ſharp ſpines, which are unequal; three or four uſually grow from the ſame point, and they diverge from each other. The flowers are like thoſe of our common Aſparagus; and the fruit, which will frequently ripen in our gardens, is very large and black.

Cape Aſparagus, 7. Cape Aſparagus. The ſtalks are upright, tough, and woody. The lateral branches are numerous, and they are terminated, as well as guarded on the ſides, by ſharp ſpines. The leaves grow in bunches, and are briſtly. The flowers are inconſiderable, and do not always bring their ſeeds to perfection with us.

Hooked-leaved, Aſparagus of Ceylon, 8. Hooked-leaved Aſparagus of Ceylon. The ſtalks of this ſort are tough and woody, and are guarded by thorns, which grow ſingly under the leaves. The leaves grow in bunches, are ſword-ſhaped, and falcated. The flowers are very inconſiderable, and the fruit like that of our common Aſparagus when ripe.

Great Prickly Aſparagus of Ceylon, 9. Great Prickly Aſparagus of Ceylon. This riſes with a weak flexuoſe ſtalk to ſix or eight feet high. The leaves are placed ſingly; they are very narrow and ſpear-ſhaped, but the ſpines are very numerous, ſhort, crooked, very ſharp, and oblige you with caution to handle the plants. This is a tender plant, and altho' it will live in a Green-houſe, to have it in perfection it ſhould be placed in the ſtove: It hardly ever produces ſeeds here, but is eaſily encreaſed by parting of the roots.

and Indian Aſparagus deſcribed. 10. Indian Aſparagus. The ſtalks are free from ſpines. The leaves are ſpear-ſhaped, and are placed alternately on foot-ſtalks. The flowers terminate the branches in looſe ſpikes; they grow alternately on very ſhort foot-ſtalks; and, like the others, are of little figure.

Culture. All theſe ſorts are encreaſed by parting of the roots, tho' the beſt plants are always raiſed from ſeeds; ſo that of ſuch ſorts as do not ripen them freely here, they ſhould be procured from the places where they naturally grow, or ſuch countries where they do ripen them well. Sow theſe, as ſoon as poſſible, after their arrival, in pots filled with rich, fat, moiſt earth, and in the end of March plunge them into a moderate hot-bed: This will ſoon bring the plants up, and greatly forward their growth. You muſt uſe them to the air, water them frequently, and ſhade them from the heat of the ſun in the middle of the day; and with this management they ſhould continue until the end of July. The plants ſhould be then ſet, each in a ſeparate pot; at this time they ſhould be well watered, and the pots ſhould be plunged up to the rims in a ſhady part of the garden: And here they may ſtand, obſerving to water them in dry weather, until the autumn, when they ſhould be removed into the Green-houſe, and have the ſame management as other tender plants.

Titles. Declinatus. The firſt ſort is titled, *Aſparagus caule inermi, ramis declinatis, foliis ſetaceis.* It grows naturally in Africa.

Retrofractus. The ſecond ſort is titled, *Aſparagus aculeis ſolitariis, ramis reflexis retrofractiſque, foliis faſciculatis.* In the *Hortus Cliffort.* it is termed, *Aſparagus fruteſcens, foliis faſciculatis ſetaceis terminalibus, ramis reflexis retroflexis.* Plukenet calls it, *Aſparagus Africanus tenuifolius, viminalibus virgis, foliis laricis*

laricis ad inſtar ex uno puncto numeroſis, ſtellatim poſitis. It is a native of Africa.

Aſiaticus. The third ſort is, *Aſparagus aculeis ſolitariis, caule erecto, ramis filiformibus, foliis faſciculatis.* In the *Hortus Cliffort.* it is called, *Aſparagus aculeis alternis, ramis ſolitariis filiformibus, foliis ſetaceis faſciculatis lateralibus.* It is a native of Aſia.

Albus. The fourth ſort is titled, *Aſparagus ſpinis retroflexis, ramis flexuoſis, foliis faſciculatis angulatis muticis deciduis.* Van Royen calls it, *Aſparagus aculeis ſolitariis, ramulis flexuoſis binis oppoſitis ſpinoſis folioſis, foliis faſciculatis*; Caſpar Bauhine, *Aſparagus aculeatus, ſpinis horridis*; Cluſius, *Corduba tertia.* It grows naturally in Spain and Portugal.

Acutifolius. The fifth ſort is, *Aſparagus caule inermi fruticoſo, foliis aciformibus rigidulis perennantibus mucronatis æqualibus.* Sauvages calls it, *Aſparagus foliis aciformibus pungentibus, caule fruticoſo inermi*; Caſpar Bauhine, *Aſparagus foliis acutis*; Camerarius, *Aſparagus ſylveſtris.* It grows naturally in Portugal, Spain, and in the Eaſt.

Aphyllus. The ſixth ſort is titled, *Aſparagus aphyllus, ſpinis ſubulatis ſtriatis inæqualibus divergentibus.* Caſpar Bauhine calls it, *Aſparagus aculeatus alter tribus aut quatuor ſpinis ad eundem exortum*; Cluſius, *Corduba altera*; Tournefort, *Aſparagus Creticus fruticoſus, craſſioribus & brevioribus aculeis, magno fructu.* It grows naturally in Sicily, Spain, and Portugal.

Capenſis. The ſeventh ſort is, *Aſparagus ſpinis lateralibus terminalibuſque ramis aggregatis, foliis faſciculatis.* In the *Hortus Cliffort.* it is termed, *Aſparagus folis quinis ſetaceis, ſpinis terminalibus lateralibuſque, ramulis ternis quaterniſque*; and Plukenet calls it, *Aſparagus aculeatus, triplici ſpinâ ſurrectus.* It grows naturally at the Cape of Good Hope.

Falcatus. The eighth ſort is, *Aſparagus aculeis ſolitariis, foliis enſiformibus falcatis*; and Burman calls it, *Aſparagus foliis falcatis ex uno puncto numeroſis.* It grows naturally in Ceylon.

Sarmentoſus. The ninth ſort is, *Aſparagus foliis ſolitariis lineari-lanceolatis, caule flexuoſo, aculeis recurvis.* Herman calls it, *Aſparagus aculeatus Zeylanicus maximus ſurmentoſus.* It grows naturally in Ceylon.

Terminalis. The tenth ſpecies is, *Aſparagus inermis, foliis alternis lanceolatis petiolatis, racemo terminali compoſito.* Rhumphius calls it, *Terminalis.* It grows naturally in India.

Claſs and order in the Linnæan Syſtem. The characters.

Aſparagus is of the claſs and order *Hexandria Monogynia*; and the characters are,

1. CALYX. There is none.
2. COROLLA conſiſts of ſix oblong, permanent petals; theſe cohere at their ungues, and form an erect tube; at the top they ſpread open, and are reflexed.
3. STAMINA conſiſt of ſix erect filiforme filaments ſhorter than the corolla, and inſerted in the petals, having roundiſh antheræ.
4. PISTILLUM conſiſts of a three-cornered turbinated germen, a very ſhort ſtyle, and a prominent ſtigma.
5. PERICARPIUM is a globoſe berry, of three cells.
6. SEMINA. The ſeeds are two, roundiſh, ſmooth, and angular on their inſide.

CHAP. XV.

ASTER, STAR-WORT.

THERE are ſome ſhrubby ſpecies of *Aſter* that require a good Green-houſe for their ſupport in winter; and theſe are,

Species.

1. The Hyſſop-leaved White Shrub *Aſter.*
2. The Germander-leaved Blue Shrub *Aſter.*
3. The Yew-leaved Shrub *Aſter.*
4. The Oval-leaved Shrub *Aſter.*

Hyſſop-leaved White Shrub, 1. The Hyſſop-leaved White Shrub *Aſter* will grow to about a yard high. The ſtem is woody, and from the main ſtem ſeveral ſide-branches are produced, of a purpliſh colour. The leaves are numerous, narrow, and ſeveral of them ariſe from the ſame point; eight or ten of them are uſually of a cluſter, and their colour is a freſh green. Early in March, among the leaves, the flowers are produced on long naked footſtalks; they grow ſingly, and their colour is white; tho' there is a variety of it with a pale blue flower, and another whoſe rays are of a fine purple.

Germander-leaved Blue Shrub Aſter deſcribed. 2. The Germander-leaved Blue Shrub *Aſter* will grow to about a yard high. The branches are garniſhed with decurrent, oboval leaves; theſe are a little ſerrated on their edges, and are downy on their under part. The flowers are produced from the ends of the branches; they have no footſtalks, and their colour is a ſky blue.

Yew-leaved Shrub, 3. Yew-leaved Shrub *Aſter.* The leaves of this are awl-ſhaped, decurrent, and have a rough border. The flowers are produced from the ends of the branches; they are ſmall, and, like the others, never produce good ſeeds in theſe parts.

Oval-leaved Shrub Aſter deſcribed. 4. Oval-leaved Shrub *Aſter.* This is a low ſhrub, that divides as it riſes into a few ſmall branches. The leaves are oval, oblong, acute, downy underneath, and ſit cloſe to the branches, having no footſtalks. The flowers are produced from the ends of the branches; each footſtalk ſupports a ſingle flower, which is of a blue colour, and hardly ever produces ſeeds in Europe.

Culture. The culture of all theſe ſorts is to be effected by ſowing of the ſeeds, or planting of the cuttings.

The ſeeds muſt be procured from Africa, where the plants naturally grow; and in the ſpring, they muſt be ſown on a moderate hot-bed, covered with light, ſandy, rich earth. When the plants come up, you muſt water them frequently, and uſe them pretty much to the air; and when they are of a ſize to be tranſplanted, they ſhould be taken up, with a ball of earth to each root, and planted ſeparately in ſmall pots, provided for the purpoſe. Theſe pots ſhould be then plunged into a ſecond hot-bed, and well watered;

as the hot weather comes on, the glaſſes muſt be ſhaded in the heat of the day, watering muſt be repeated, and the plants muſt, by degrees, be inured to the open air. When the plants have well filled their ſmall pots, they ſhould be removed into others of larger ſize, which may be done by turning the mould out, without diſturbing the roots; after that they ſhould be plunged up to the rims in a ſhady part of the garden, where they may remain until October, when they ſhould be removed into the Green-houſe, and ſituated where they can have a good ſhare of freſh air.

By cuttings they are eaſily raiſed. Theſe ſhould be planted in pots filled with a light, ſandy, rich earth, and the pots ſhould be ſet in the Green-houſe where the ſun cannot come at them: May, June, or July, are proper months for the work; and after you find the cuttings have taken root, they muſt be taken out of the Green-houſe, and plunged up to the rims in ſome ſhady part of the garden; and in October muſt be ſtationed with other plants in the Green-houſe.

As the plants encreaſe in ſize, they muſt have larger pots, and the common care and management of other tender Green-houſe plants muſt conſtantly attend them.

Titles. Fruticosus.

1. The White Shrub *Aſter* is titled, *Aſter fruticoſus foliis linearibus punctatis, pedunculis unifloris nudis.* Plukenet calls it, *Aſter maritimus fruticoſus, hyſſopi foliis conſertis, flore albo*; and Commeline, *Aſter Africanus fruteſcens, foliis anguſtis & plerumque conjunctis.* It grows naturally at the Cape of Good Hope.

Polifolius.

2. The Germander-leaved Blue Shrub *Aſter* is titled, *Aſter ſuffruticoſus, foliis decurrentibus obovatis ſubtus tomentoſis ſubſerratis, floribus terminalibus ſeſſilibus.* Ray calls it, *Aſter fruticoſus Africanus, foliis parvis chamædryos, floribus cæruleis*; and Vaillant, *Aſteropterus fruticoſus cæruleus, polii foliis.* It grows naturally at the Cape of Good Hope.

Taxifolius.

3. Yew-leaved Shrub *Aſter*. This is titled, *Aſter fruticoſus, foliis decurrentibus ſubulatis margine ſcabris, floribus terminalibus.* It grows at the Cape of Good Hope.

Crinitus.

4. Oval-leaved Shrub *Aſter*. This is titled, *Aſter fruticuloſus, foliis ovato-oblongis acutis ſubtus tomentoſis calycibus pilo terminatis.* It grows naturally at the Cape of Good Hope.

CHAP. XVI.

ASTRAGALUS, LIQUORICE VETCH, or MILK VETCH.

Species. THERE remains for this place one ſpecies of a tolerable hardy nature, but which wants a little nurſing at firſt, called the Tragacanth Shrub, or Goats Thorn.

The plant deſcribed. The ſtalks are numerous, thick, tough, woody, prickly, of a white colour, a foot or two in length, and lie on the ground. The leaves are pinnated, being formed of ſix or eight pair of folioles terminated by an odd one. In ſome varieties they are oval, in others oblong, and in ſome very narrow and ſpear-ſhaped. They are of a ſilvery white colour, and continue a long time on the plant; and after they are fallen, their footſtalks ſtill remain in the form of ſharp thorns, guarding the plant on every ſide. The flowers are produced among the leaves and prickles, along the ſides of the branches; they are of different colours, and of different ſizes in the different varieties. They appear uſually in June and July, but are very ſeldom ſucceeded by ſeeds in England.

Varieties. The principal varieties of this ſpecies are,

The White.
The Red.
The Crimſon.
The Purple.

Culture. This plant is propagated by ſeeds, which may be procured from France, where they ripen very well. Theſe may be ſown in beds, in the full ground, in the ſpring of the year; and if the beds are hooped and ſhaded, and the mould kept moiſt, the plants will ſoon come up. After their appearance the mats muſt be raiſed by degrees, to give them a due admiſſion of air; and, as they become ſtronger plants, muſt be finally taken off. When the plants are fit to remove, they muſt be ſet ſeparately in pots filled with light freſh earth, obſerving to preſerve a ball of earth to each root at their removal. They muſt next have a good watering, and be ſet in a ſhady place until they are eſtabliſhed in their new ſituation; when they may be removed into a warm well-ſheltered part of the garden, to remain there until November, if the weather will permit, and be then taken into ſhelter, with the hardieſt kinds of exoticks. Theſe plants, when they become woody, may be ſet abroad, if the ſoil be naturally warm, dry, and the place well defended: But as they are frequently deſtroyed by hard winters, it will be proper to preſerve a ſhare of them in the Green-houſe, with other hardy plants.

They may be alſo propagated by ſlips or cuttings. Theſe ſhould be taken in the ſpring from the old roots, be planted in pots, and aſſiſted by a moderate degree of warmth in the hotbed. They muſt be watered and kept ſhaded at firſt, and they will ſoon ſtrike root; then they ſhould be hardened by degrees to the open air, ſet abroad, and managed like the ſeedlings.

Titles. Traga=cantha.

This ſpecies is titled, *Aſtragalus caudice arboreſcente, petiolis ſpineſcentibus.* Caſpar Bauhine calls it ſimply, *Tragacantha*; Plukenet, *Aſtragalus aculeatus fruticoſus Maſſilienſis*; Gronovius, *Tragacanthæ affinis lanuginoſa, ſive poterium*; Cluſius, *Tragacantha altera, poterium forte*; and Garidel, *Tragacantha alpina ſempervirens floribus purpuraſcentibus.* It grows naturally in moſt of the ſouthern countries of Europe.

C H A P. XVII.

ATHANASIA.

OF this genus are the following ſpecies, which muſt be ſtationed in the Green-houſe in the winter:

Species.

1. Sampire-leaved *Athanaſia.*
2. Trifurcated *Athanaſia.*
3. Dentated *Athanaſia.*
4. Lævigated *Athanaſia.*
5. Capitated *Athanaſia.*
6. Crenated *Athanaſia.*
7. Squarroſe *Athanaſia.*
8. Downy *Athanaſia.*

Deſcription of Sampire-leaved

1. Sampire-leaved *Athanaſia.* The ſtem is woody, upright, firm, branching, and about ſix feet high. The bark on the main ſtem is rough, and of a paliſh brown; but that on the young ſhoots is green, often tinged with red. The leaves are ſmall, narrow, of a pale-green colour, and irregularly divided into three or five principal parts, or ſegments. The flowers come out from the ends of the branches in a ſimple corymbus; they are of the compoſite kind, but being all hermaphrodites, are deſtitute of rays; their colour is yellow, and they ſhew themſelves in ſucceſſion great part of the ſummer, autumn, and winter.

Trifurcated,

2. Trifurcated *Athanaſia.* This is a branching ſhrub, about the ſame height with the former. The leaves are ſhort, flat, wedge-ſhaped, ſeſſile, of a greyiſh colour, and are cut at the ends into three principal parts. The flowers come out from the ends of the branches, in round, compact, ſingle bunches; they are of a pale ſulphur colour, appear great part of the ſummer and autumn, but the ſeeds rarely ripen in our gardens.

Dentated,

3. Dentated *Athanaſia.* The ſtalk is woody, branching, and three or four feet high. The branches are numerous, ſlender, at firſt green, but alter afterwards to a brown colour. The leaves are of two kinds; the lower ones are oblong, narrow, ſtiff, and indented at the top; the upper ones are oval, and their edges are ſerrated. The flowers come out in compound corymbi; they are of a pale yellow colour, appear early in the ſummer, and are frequently ſucceeded by good ſeeds in our gardens.

Lævigated,

4. Lævigated *Athanaſia.* This is a branching ſhrub, four or five feet high. The leaves are oval, ſlightly indented on their edges, recurved, and embrace the ſtalk with their baſe. The flowers terminate the branches in a compound corymbus; they are of a yellow colour, and appear great part of the ſummer.

Capitated,

5. Capitated *Athanaſia.* This is a ſhrub about a yard or four feet high. The leaves are ſpear-ſhaped, hairy, much reſemble thoſe of Marjoram, and grow alternately. The flowers come out from the ends of the branches, two or three together, on very ſhort footſtalks; they are of a yellow colour, and, like the former ſorts, appear great part of the ſummer.

Crenated,

6. Crenated *Athanaſia.* This is a branching ſhrub about two or three feet high. The leaves are narrow, three-cornered, and grow alternately. The flowers grow ſingly at the tops of the branches, and have this ſingularity; the ſcales of the calyx are crenated: They are of a yellow colour, and have no rays, come out early in ſummer, and the ſeeds frequently ripen in the autumn.

Squarroſe,

7. Squarroſe *Athanaſia.* The ſtalk is woody, branching, and four or five feet high. The leaves are of an oval figure, and recurved. The flowers come out ſingly on footſtalks from the ſides of the branches, appear in June, July, and Auguſt, but are rarely ſucceeded by good ſeeds in England.

and Downy Athanaſia

8. Downy *Athanaſia.* The ſtem is woody, divides into ſeveral branches, and grows to be ſeven or eight feet high. The leaves are ſpear-ſhaped, undivided, hairy, white, and downy. The flowers come out from the ends and ſides of the branches in a ſimple corymbus, are of a yellow colour, and appear during the ſummer and autumn, and frequently the greateſt part of the winter.

Culture.

All theſe ſpecies are propagated with the utmoſt facility by planting the ſlips or cuttings. The ſeaſon for planting the cuttings is any time in the ſummer; and they may be ſet in the open ground, or in ſmall pots filled with any common kitchen-garden mould that is light and in good heart. In either caſe, they muſt be duly watered and ſhaded until they have taken root. If the cuttings were planted in the full ground, in September, or when they have made ſome growth, they ſhould be taken up with a ball of earth to the roots, and ſet in pots. They ſhould be then placed in the ſhade for a few days, until they are freſh eſtabliſhed, and after that be ſtationed under a warm wall full upon the ſun; where they may remain until the end of October, and be then removed into the Green-houſe. Here they muſt have plenty of air, and be managed as the hardieſt Green-houſe plants; otherwiſe they will grow weak, the beauty of the leaves and branches will be diminiſhed, and the flowers be ſmaller, and of a leſs inviting appearance.

They may be alſo raiſed by ſowing the ſeeds on a ſlight hotbed in the ſpring, and, when the plants are fit to remove, ſetting them in pots, and managing them like the cuttings. But this method is tedious, and not worth practiſing; eſpecially as the plants of theſe kinds raiſed from good cuttings, are found to be no way inferior in beauty to thoſe that have been raiſed from ſeeds.

Titles.

Crithmi=folia.

1. Sampire-leaved *Athanaſia* is titled, *Athanaſia corymbis ſimplicibus, foliis ſemitrifidis linearibus.* In the former edition of the *Species Plantarum* it is termed, *Santolina corymbis ſimplicibus faſtigiatis, foliis ſemitrifidis linearibus*; in the *Hortus Upſal. Santolina corymbo ſimplici, foliis trifidis.* Burman calls it, *Coma aurea fruteſcens, foliis anguſtiſſimis trifidis*; Commeline, *Coma aurea Africana fruticans, foliis crithmi marini*; and Plukenet, *Jacobæa Æthiopica, foliis abrotani trifidis, ſummo caule capitulis parvis glomeratis.* It grows naturally in Æthiopia.

Trifur=:cata.

2. Trifurcated *Athanaſia* is, *Athanaſia corymbis ſimplicibus, foliis trilobis cuneiformibus.* Van Royen calls it, *Santolina corymbo ſimplici terminali, foliis trifidis*; and Commeline, *Coma aurea Africana fruticans,*

fruticans, foliis glaucis & in extremitate trifidis. It is a native of Æthiopia.

Dentata. 3. Dentated *Athanaſia* is titled, *Athanaſia corymbis compoſitis, foliis inferioribus linearibus dentatis, ſuperioribus ovatis ſerratis.* Van Royen calls it, *Santolina corymbis compoſitis faſtigiatis, foliis inferioribus linearibus dentatis, ſuperioribus ovatis ſerratis*; and Commeline, *Coma aurea Africana fruteſcens, foliis inferioribus inciſis, ſuperioribus dentatis.* It grows naturally in Æthiopia.

Lævigata. 4. Lævigated *Athanaſia* is titled, *Athanaſia corymbis compoſitis, foliis ovatis amplexicaulibus ſubdentatis recurvis.* It grows naturally at the Cape of Good Hope.

Capitata. 5. Capitated *Athanaſia* is titled, *Athanaſia floribus terminalibus ſubſeſſilibus, foliis lanceolatis hirſutis.* Breynius calls it, *Chryſanthemum conyzoides Æthiopicum, capitulo aphyllo, foliis marjoranæ.* It grows naturally in Æthiopia.

6. Crenated *Athanaſia* is titled, *Athanaſia floribus ſolitariis terminalibus, foliis linearibus.* In the former edition of the *Species Plantarum* it is termed, *Stæhelina foliis ſubtrigonis, ſquamis calycinis crenatis*; and in the *Hortus Cliffort. Santolina foliis linearibus, flore ſolitario terminali, ſquamis calycinis crenatis.* It grows naturally in Æthiopia. Crenata.

7. Squarroſe *Athanaſia* is titled, *Athanaſia pedunculis unifloris lateralibus, foliis ovalibus recurvatis.* It grows naturally at the Cape of Good Hope. Squarrosa.

8. Downy *Athanaſia* is titled, *Athanaſia corymbis ſimplicibus, foliis lanceolatis indiviſis villoſis.* Commeline calls it, *Coma aurea Africana fruticoſa omnium maxima, foliis tomentoſis & incanis.* It grows naturally in Æthiopia. Pubescens.

CHAP. XVIII.

ATRAGENE.

THERE is one beautiful ſpecies of this genus, called, Cape *Atragene.*

Deſcription of Cape Atragene. The ſtalk is ſomewhat ligneous near the baſe, but upwards is herbaceous and tender. The leaves are trifoliate, the folioles being wedge-ſhaped, trifid, acute-pointed, and often finely jagged on their edges. The flowers are produced ſingly on hairy footſtalks, are of a fine fleſh-colour, very double, but are not ſucceeded by ſeeds in England.

Varieties. There is a variety of this ſpecies with white, and another with purpliſh flowers.

Culture. Theſe are increaſed by parting of the roots, the beſt time for which work is the ſpring. They ſhould be ſet in pots, and plunged into a moderate degree of warmth in any common hotbed, to ſet them more ſpeedily a-growing. They muſt be watered, but require very little ſhade, unleſs the weather be very hot; then it will be proper to draw a mat over the glaſſes during the time the ſun has the greateſt power on the bed. When the plants have commenced a good growing ſtate, they muſt be hardened by degrees to the open air, then ſet abroad in ſome warm well-ſheltered place, and in the autumn be taken into a good Green-houſe, with other tender exotics.

Titles. This ſpecies is titled, *Atragene foliis ternatis: foliolis inciſis dentatis, petalis exterioribus quinis.* Burman calls it, *Pulſatilla foliis trifidis dentatis, flore incarnato pleno*; and Herman, *Pulſatilla apii folio rigido, flore magno.* It grows naturally at the Cape of Good Hope. Capensis.

Claſs and order in the Linnæan Syſtem. The characters. *Atragene* is of the claſs and order *Polyandria Polygynia*; and the characters are,

1. Calyx is a perianthium compoſed of four oval, obtuſe, patent, deciduous leaves.

2. Corolla conſiſts of twelve linear, obtuſe, patulous petals, which are extremely narrow at their baſe.

3. Stamina are numerous very ſhort filaments, with oblong, acuminated antheræ that are ſhorter than the calyx.

4. Pistillum conſiſts of numerous oblong germens, and the like number of hairy ſtyles, with ſimple ſtigmas the length of the antheræ.

5. Pericarpium. There is none.

6. Semina. The ſeeds are numerous, and feathered at the ends.

CHAP. XIX.

ATRAPHAXIS.

Species. THERE are two ſpecies of this genus, called,

1. Prickly *Atraphaxis.*
2. Curled-leaved *Atraphaxis.*

Deſcription of Prickly 1. Prickly *Atraphaxis.* The ſtalk is woody, four or five feet high, and ſends out ſeveral weak, ſlender branches from the ſides which are armed with ſpines. The leaves are ſpear-ſhaped, ſmall, ſmooth, and of an aſh-colour. The flowers come out in cluſters from the ends of the branches, and are of a white colour tinged with purple, having whitiſh, greeniſh cups; they appear in Auguſt, but are not ſucceeded by ripe ſeeds in England.

and Curled-leaved Atraphaxis. 2. Curled-leaved *Atraphaxis.* The ſtalks are ligneous, ſlender, and trailing. The leaves are oval, ſmall, curled on their edges, grow alternately, and embrace the ſtalk with their baſe. The flowers are produced from the wings of the leaves, are of a greeniſh colour, appear in June and July, but are ſeldom ſucceeded by ripe ſeeds in our gardens.

Culture. Theſe ſpecies are propagated by cuttings, which may be planted in the ſpring, ſummer, or autumn. They ſhould be ſet in pots filled with light, rich earth, and watered and ſhaded until they have taken root. When they are in a good growing ſtate, they may be ſet abroad in ſome well-ſheltered place, where they may remain until the end of autumn, and be then taken into the Green-houſe, or ſome cover, to protect them from froſt, which is all the trouble they will require; for they are tolerably hardy, and will ſometimes live abroad, in warm ſituations, through mild winters.

Titles. Spinosa 1. Prickly *Atraphaxis* is titled, *Atraphaxis ramis ſpinoſis.* Tournefort calls it, *Atriplex Orientalis, frutex aculeatus, flore pulchro.* It grows naturally in Media.

Undulata 2. The ſecond ſpecies is, *Atraphaxis inermis.* In the *Hortus Cliffort.* it is termed, *Atraphaxis inermis, foliis undulatis.* Dillenius calls it, *Arbuſcula Africana repens, folio ad latera criſpo, ad polygona relata.* It grows naturally in Africa.

Claſs and order in the Linnæan Syſtem. The characters. *Atraphaxis* is of the claſs and order *Hexandria Digynia*; and the characters are,

1. Calyx is a perianthium compoſed of two ſpear-ſhaped, coloured, permanent leaves placed oppoſite to each other.
2. Corolla is two roundiſh, ſinuated, permanent petals larger than the calyx.
3. Stamina are ſix capillary filaments the length of the calyx, having roundiſh antheræ.
4. Pistillum conſiſts of a compreſſed germen, without any ſtyle, but two capitated ſtigmas.
5. Pericarpium. There is none. The calyx cloſes, and includes the ſeed.
6. Semen. The ſeed is ſingle, roundiſh, and compreſſed.

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CHAP. XX.

ATROPA, DEADLY NIGHT-SHADE.

WE meet with two ſpecies of this genus which require their winter-lodgings to be in the Green-houſe. Theſe are called,

Species.

1. Spaniſh Shrubby *Atropa.*
2. American Shrubby *Atropa.*

Deſcription of Spaniſh Shrubby 1. Spaniſh Shrubby *Atropa.* The ſtem is upright, ſhrubby, branching, and will grow to about ſeven feet high. The leaves are heart-ſhaped, oval, obtuſe, and grow alternately on the branches. The flowers are produced from the wings of the leaves on ſhort footſtalks, many of them riſing from the ſame point: Their colour is a very bad yellow variegated a little with brown; they generally ſhew themſelves in July or Auguſt, but never produce ſeeds in our gardens.

and American Shrubby Atropa. 2. American Shrubby *Atropa* will often riſe to eight feet in height. The ſtem is woody and branching. The leaves are large, of an oblong figure, and not unlike thoſe of Tobacco. The flowers grow many together, from the wings of the leaves, on ſhort footſtalks, are of a white colour, and uſually ſhew themſelves about the ſame time as the former.

Culture. Theſe ſorts are raiſed from ſeeds, which muſt be procured from the places where they naturally grow. Theſe ſhould be ſown, in March, on a moderate hotbed; and when the plants come up they muſt be frequently watered, and have as much air as poſſible, to prevent their drawing weak. When all danger of bad weather is over, the glaſſes ſhould be wholly taken off, but the plants ſhould always be ſhaded with mats in the great heat of the ſun. When the plants are about five inches high, let each be taken up with a ball of earth to the root, and planted in a ſeparate pot; and if at this time they are plunged into a ſecond hotbed, it will greatly forward their growth. This, however, is not abſolutely neceſſary, for they will grow very well if the pots are ſet in a ſhady place. If, therefore, you have no hotbed, let them be plunged up to the rims, in a ſhady part of the garden, but not under the drip of trees; and if you give them the advantage of a hot-bed, as ſoon as the heat is abated, and the plants are well hardened, let their ſtation be in a ſhady place in the like manner. At the time of removing theſe plants, let them be well watered; and let this be repeated, as often as there ſhall be occaſion, all ſummer; and in October remove them into the Green-houſe, and manage them accordingly.

Titles. Frutescens. 1. The Spaniſh *Atropa* is titled, *Atropa caule fruticoſo, pedunculis confertis, foliis cordato ovatis obtuſis.* Tournefort calls it, *Bella-donna fruteſcens rotundifolia Hiſpanica.* It grows naturally in Spain.

Arborescens. 2. The American *Atropa* is titled, *Atropa caule fruteſcente, pedunculis confertis, corollis revolutis, foliis oblongis.* Plumier calls it, *Bella-donna fruteſcens, flore albo, nicotianæ foliis.* It grows naturally in America.

CHAP XXI.

BACCHARIS, PLOUGHMAN's SPIKENARD.

Species. OF this genus are,

1. *Iva*-leaved *Baccharis.*
2. *Herium*-leaved *Baccharis.*
3. *Halimus*-leaved *Baccharis*, or Virginian Groundſel-tree.

Iva-leaved, 1. *Iva*-leaved *Baccharis.* The ſtalks are ſhrubby, branching, and five or ſix feet high. The leaves are ſpear-ſhaped, long, ſerrated, venoſe, and much reſemble thoſe of Jeſuits Bark. The flowers come out from the ends and ſides of the branches; they are of a white colour, appear in July and Auguſt, and the ſeeds ripen in the autumn.

Herium-leaved, 2. *Herium*-leaved *Baccharis:* This riſes with a ſhrubby, branching ſtalk to the height of four or five feet. The leaves are ſpear-ſhaped, and like thoſe of the *Oleander*, or Roſe-Bay. The flowers come out from the ends of the branches, and are ſucceeded by ſeeds, which ripen in the autumn.

and Halimus-leaved Baccharis deſcribed. 3. *Halimus*-leaved *Baccharis.* This is known among gardeners by the name of Virginian Groundſel-tree. It riſes with a ſhrubby branching ſtalk to the height of ſeven or eight feet. The leaves are oboval, indented, of a glaucous colour, and continue all the year. The flowers are white, and appear in July, Auguſt, and September.

Culture. All theſe are eaſily propagated by planting of the cuttings, in pots, in any of the ſummer-months. They muſt be watered, and kept ſhaded until they have taken root; and after that they will require no trouble until the end of autumn, when they may be houſed, with the hardieſt Green-houſe plants. The laſt ſort is planted in ſhrubberies; and in ſome warm, dry ſituations it will live through ordinary winters; but as it hardly ever ſurvives a tolerably ſharp froſt, a ſhare of the plants ought always to be preſerved in the Green-houſe, to keep up the ſtock, in caſe thoſe abroad ſhould be deſtroyed.

Titles. Ivafolia. 1. The firſt ſpecies is titled, *Baccharis foliis lanceolatis longitudinaliter dentato-ſerratis.* Fewill calls it, *Conyza fruteſcens, foliis anguſtioribus nervoſis*; Plukenet, *Eupatorium Africanum, agerato affinis Peruvianæ, floribus albis*; and Moriſon, *Pſeudo-Helychryſum fruteſcens Peruvianum, foliis longis ſerratis.* It grows in Virginia and Peru.

Neriifolia. 2. The ſecond is, *Baccharis foliis lanceolatis ſuperne uno alterove denticulo ſerratis.* Boerhave calls it, *Arbuſcula foliis nerii.* It grows naturally in Æthiopia.

Halimifolia. 3. The third is, *Baccharis foliis obovatis ſuperne emarginato-crenatis.* Ray calls it, *Senecio Virginianus arboreſcens, atriplicis folio*; Moriſon, *Pſeudo-Helichryſum Virginianum fruteſcens, halimi latioris foliis glaucis*; Plukenet, *Elichryſo affinis Virginiana fruteſcens, chenopodii foliis glaucis*; and Petiver, *Argyrocome Virginiana, atriplicis folio.* It grows naturally in Virginia.

Claſs and order in the Linnæan Syſtem. The characters. *Baccharis* is of the claſs and order *Syngeneſia Polygamia Superflua*; and the characters are,

1. CALYX. The general calyx is cylindrical, and imbricated with ſeveral narrow, acute ſcales.

2. COROLLA. The compound flower is equal; the hermaphrodite and female florets are intermixed one with another: Each hermaphrodite floret has one funnel-ſhaped petal, cut into five ſegments at the top.

The female florets have hardly any corolla.

3. STAMINA of the hermaphrodites are five very ſmall capillary filaments, having a cylindrical, tubular anthera.

4. PISTILLUM of the hermaphrodites conſiſts of an oval germen, a filiforme ſtyle the length of the flower, and a bifid ſtigma.

In the females, it is ſimilar to that of the hermaphrodites.

5. PERICARPIUM. There is none.

6. SEMINA of the hermaphrodites are ſingle, very ſhort, oblong, and crowned with a ſimple down.

In the females, the ſeed is ſimilar to the hermaphrodites.

The receptacle is naked.

CHAP. XXII.

BARRERIA.

The plant deſcribed. THERE is only one ſpecies of this genus, called, *Barreria.*

The ſtalk is woody, ſends out ſeveral erect, hairy branches from the ſides, and grows to be two or three feet high. The leaves are oval, ſpear-ſhaped, undivided, poſſeſſed of white hairs, eſpecially near the edges, and grow alternately. The flowers are produced in ſmall heads from the ends of the branches, but generally fall off without being ever ſucceeded by fruit in theſe parts.

Culture. This plant is propagated by planting the ſlips or cuttings in any of the ſummer-months. They ſhould be ſet in a bed of good garden-mould, pretty cloſe together, that they may be the better covered until they have taken root. The covering ſhould be of mats laid on hoops placed for the purpoſe; and during the continuance of this cover, they muſt have due ſupplies of water. When they have commenced a growing ſtate, the mats ſhould be raiſed by degrees, and the plants be then gradually hardened to the open air; after which the mats ſhould be wholly taken off. When they have become pretty good plants, they ſhould be taken up with a ball of earth to each root, and ſet ſeparately in pots filled with good light garden mould, and then watered and ſet in the ſhade until they are eſtabliſhed in their new ſituation. Afterwards they muſt be ſet in a warm part of the garden, to remain there until the latter end of October, and be then taken into ſhelter with the other Green-houſe plants.

Titles. Capensis. There being no other ſpecies of this genus, it is named ſimply, *Barreria.* Plukenet calls it, *Erica capitata ſ. nodiflora, corios foliis rectis, Æthiopica.* It grows naturally in Æthiopia.

Claſs and order in the Linnæan Syſtem. The characters. *Barreria* is of the claſs and order *Pentandria Pentagynia*; and the characters are,

1. CALYX is a monophyllous, turbinated, erect, permanent perianthium cut into five ſegments at the top.

2. COROLLA conſiſts of five oval petals, having very long, filiforme, ſpreading ungues.

3. STAMINA are five awl-ſhaped filaments ſhorter than the calyx, with ſimple antheræ.

4. PISTILLUM conſiſts of a rude, quinquifid germen immerſed in the calyx, and five filiforme ſtyles the length of the ſtamina, with obtuſe ſtigmas.

CHAP. XXIII.

BIGNONIA, The TRUMPET-FLOWER.

THE Quadrifoliate and Capreolated *Bignonias*, among the Climbers, are rather tender plants, require a warm ſoil and ſituation, and matting in froſty weather to enſure their ſafety; and as they are very beautiful plants, a few of them ſhould be brought into the Green-houſe to preſerve the ſorts, in caſe thoſe abroad ſhould be deſtroyed by ſevere weather. To theſe

Carolina Blue Trumpet-Flower deſcribed. ſhould be added, the Carolina Blue Trumpet-Flower, or Baſtard *Guajacum.* This plant riſes to fifteen or twenty feet high, and ſends forth many branches from the ſides. The leaves are bipinnated; the folioles are ſpear-ſhaped, entire, and placed alternately. The flowers come out from the ends of the branches in looſe panicles; they are of a blue colour, and are ſucceeded by hard, oval pods, containing the ſeeds, and opening in two parts.

Culture. This plant is raiſed by ſowing the ſeeds in a hotbed, in the ſpring. When the plants are fit to remove, each ſhould have a ſeparate pot, and be plunged into a ſecond hotbed. Here they muſt be ſhaded and watered, and they will ſoon take root. From this time they muſt be hardened by degrees to the open air; and in June they ſhould be ſet abroad, in a warm, well-ſheltered, ſhady place. Watering muſt be afforded them all ſummer, as often as dry weather makes it neceſſary; and in October they may be removed into the Green-houſe, with the other plants.

Titles. Cærulea. This ſpecies is titled, *Bignonia foliis bipinnatis: foliolis lanceolatis integris.* Cateſby calls it, *Arbor guajaci latiore folio, bignoniæ flore cæruleo, fructu duro in duas partes diſſiliente, ſeminibus alatis imbricatim poſitis.* It reſides in Carolina.

CHAP. XXIV.

BOBARTIA.

THERE is only one ſpecies of this genus at preſent known, called, *Bobartia.*

The plant deſcribed.

The root is compoſed of many browniſh, tough, crooked fibres. The radical leaves are long, broad at the baſe, but diminiſh gradually to a point, ribbed, and of a duſky green colour. The ſtalk is round, hollow, jointed, and adorned with leaves, growing ſingly at each joint, which ſurround it, a great way up, with their baſe. The flowers are numerous at the top of the ſtalks; they are ſmall, and of a pale green or greyiſh colour, appear in Auguſt and September, but the ſeeds ſeldom ripen in England.

Culture.

This ſpecies is propagated by ſowing the ſeeds, procured from abroad, on a hot-bed in the ſpring. When the plants are fit to remove, they muſt be ſet ſingly in pots filled with freſh earth. Theſe pots muſt be plunged into a hot-bed of tanner's bark; the plants muſt be watered, and kept ſhaded at firſt; afterwards they muſt have a large ſhare of air, and be duly watered, eſpecially in hot weather; then by degrees they ſhould be hardened to the open air, and may be ſtationed in ſome warm, well-ſheltered place, to remain there until the time of taking into ſhelter the tenderer ſorts of Green-houſe plants comes on. They muſt have a warm place in the Green-houſe, and plenty of free air, when the weather is mild in winter, tho' but little water; and in ſummer they may be ſet abroad, with other tender plants, and treated accordingly. There is little beauty in this plant, and it is ſeldom met with, except where a general collection of plants is kept up.

Titles. Indica.

There being no other ſpecies of this genus, it is termed ſimply, *Bobartia*. In the *Amœnitates Academicæ* it is termed, *Bobartia ſpicis capitatis, involucro folioſo.* Scheuchzer calls it, *Scirpus Maderaſpatanus, capitulo ſquamoſo ſubrotundo.* It grows naturally in India.

Claſs and order of the Linnæan Syſtem. The characters.

Bobartia is of the claſs and order *Triandria Digynia* and the characters are;

1. Calyx is a glume containing one flower. The glumes are numerous and cylindrical: The exterior ones are many, ſhort, and each conſiſts of one valve: The interior ones are longer, equal, and compoſed of two valves; the exterior valve being very large; the interior narrow, truncated, and of the ſame length with the other.

2. Corolla is a ſlender, bivalved, withering glume, ſhorter than the calyx, and ſituated above the germen.

3. Stamina are three very ſhort capillary filaments, with oblong antheræ.

4. Pistillum conſiſts of a ſhort germen below the calyx, and two filiforme ſtyles, with ſimple ſtigmas.

5. Pericarpium. There is none.

6. Semen. The ſeed is ſingle, and ſomewhat oblong.

* * *

CHAP. XXV.

BORBONIA.

THIS genus conſiſts of the following ſpecies:

Species.

1. Heath-leaved *Borbonia.*
2. Trinervous *Borbonia.*
3. Lanceolated *Borbonia.*
4. Cordated *Borbonia.*
5. Tomentoſe *Borbonia.*
6. Crenated *Borbonia.*

Heath-leaved,

1. Heath-leaved *Borbonia.* The ſtalks are woody, ſlender, branching, and four or five feet high. The leaves are narrow, acute-pointed, and hairy underneath. The flowers are produced in roundiſh bunches from the ends and ſides of the branches; they are ſmall, and of a yellow colour; they appear in Auguſt and September, but the ſeeds rarely ripen in England.

Trinervous,

2. Trinervous *Borbonia.* The ſtalks are woody, firm, branching, and ſix, eight, or ten feet high. The leaves are ſpear-ſhaped, pointed, entire, ſtiff, and have three ſtrong nerves running from the baſe to the point. The flowers are produced ſingly on footſtalks, from the upper parts of the branches; they are of a yellow colour, appear in September, but are not ſucceeded by ripe ſeeds in our gardens.

Lanceolated,

3. Lanceolated *Borbonia.* The ſtalks are ligneous, ſmooth, ſlender, branching, and five or ſix feet high. The leaves are ſpear-ſhaped, acute-pointed, ſtiff, entire, have many longitudinal nerves, and grow alternately. The flowers are produced in cluſters from the upper parts of the branches; they are of a browniſh-yellow colour, appear in Auguſt and September, but the ſeeds do not ripen in England.

and Cordated Borbonia deſcribed.

4. Cordated *Borbonia.* The ſtalks are woody, ſlender, branching, and covered with a white bark. The leaves are heart-ſhaped, acute-pointed, entire, have many longitudinal nerves, and embrace the ſtalks with their baſe. The flowers are produced in cluſters from the ends of the branches; they are of a yellow colour, appear

in September, but the ſeeds do not ripen in England.

Tomentoſe

5. Tomentoſe *Borbonia.* The ſtalk is woody, firm, branching, and ten or twelve feet high. The leaves are oboval, and covered with a white, ſilvery down. The flowers are produced in umbellated bunches from the ends of the branches; they are of a yellow colour, and appear in Auguſt and September, but the ſeeds rarely ripen in England.

and Crenated Borbonia deſcribed.

6. Crenated *Borbonia* is a ſhrub five or ſix feet high. The leaves are heart-ſhaped, ſmooth, prickly-pointed, crenated, have many longitudinal nerves, and embrace the ſtalks with their baſe. The flowers are produced in cluſters from the ends of the branches; they appear about the ſame time with the former, but the ſeeds rarely ripen in England.

Culture.

Theſe are propagated by ſowing the ſeeds, which muſt be procured from the countries where the plants naturally grow. They ſhould be ſown in pots, filled with light, freſh earth, ſoon after their arrival; and theſe pots ſhould be ſet in the Green-houſe, or have ſome ſhelter to protect them from the froſt, until the ſpring, when they ſhould be plunged up to the rims in a moderate hot-bed. This will effectually bring up the plants; and when they are about three or four inches high, each ſhould be ſet in a ſeparate pot, be again plunged into the hot-bed, watered, and kept ſhaded, until they have taken root. After that, they muſt be hardened by degrees to the open air; and, when this is effected, be ſet abroad, in ſome warm, well-ſheltered place, until the autumn, when they ſhould be removed to the Green-houſe for their winter-lodgings. They ſhould be ſtationed where they can have as much ſun and freſh air as poſſible, all winter, and during that ſeaſon will need little water; but they muſt be regularly and conſtantly ſupplied with water, when they are ſet abroad in ſummer.

They are alſo propagated by layers, which ſhould be performed on the young ſhoots, as is practiſed for laying of carnations; but theſe are generally two years before they ſtrike root; neither will the plants ever be ſo ſtraight and beautiful as the ſeedlings; ſo that when good ſeeds can be procured, it is the moſt eligible, as well as expeditious method of raiſing theſe ſhrubs.

Titles. Ericifolia.

1. The firſt ſpecies is titled, *Borbonia foliis ſublinearibus acutis ſubtus villoſis, capitulis terminalibus.* Ray calls it, *Geniſta Africana, ericæ folio, floribus parvis luteis in capitula congeſtis.* It grows naturally at the Cape of Good Hope.

Trinervia.

2. The ſecond is, *Borbonia foliis lanceolatis trinerviis integerrimis.* In the *Hortus Cliffort.* it is termed, *Borbonia foliis lanceolatis acuminatis trinerviis.* Plukenet calls it, *Frutex Æthiopicus, ruſci anguſto & minore folio.* It grows naturally in Æthiopia.

Lanceolata

3. The third is, *Borbonia foliis lanceolatis multinerviis integerrimis.* Tournefort calls it, *Geniſta Africana fruteſcens, ruſci foliis nervoſis*; Commeline, *Spartium Africanum fruteſcens, ruſci folio caulem amplexante*; and Plukenet, *Frutex Æthiopicus, foliis ruſci, floribus papilionaceis ſericeâ lanugine fuſcâ villoſis.* It grows naturally in Æthiopia.

Cordata.

4. The fourth is, *Borbonia foliis cordatis multinerviis integerrimis.* In the *Hortus Cliffort.* it is termed, *Borbonia foliis cordatis acuminatis integerrimis multinerviis.* Breynius calls it, *Planta leguminoſa Æthiopica, foliis ruſci.* It inhabits Æthiopia.

Tomentosa.

5. The fifth is, *Borbonia foliis obovatis villoſis.* It grows naturally in Æthiopia.

Crenata.

6. The ſixth is, *Borbonia foliis cordatis multinerviis crenatis.* It grows naturally in Æthiopia.

Claſs and order in the Linnæan Syſtem. The characters.

Borbonia is of the claſs and order *Diadelphia Decandria*; and the characters are,

1. Calyx is a monophyllous, turbinated perianthium, half the length of the corolla, and cut at the brim into five ſpear-ſhaped, acuminated, rigid, pungent, nearly equal ſegments, the corner one being the longeſt.

2. Corolla is papilionaceous, hairy on the outſide, and conſiſts of five petals.

The vexillum is obtuſe, and reflexed.

The alæ are ſemicordated, and a little ſhorter than the vexillum.

The carina is lunulated, obtuſe, and formed of two petals.

3. Stamina are nine filaments, which coaleſce into a cylinder at the baſe, but divide longitudinally upwards, having ſmall antheræ.

4. Pistillum conſiſts of an awl-ſhaped germen, a ſhort riſing ſtyle, and an obtuſe, emarginated ſtigma.

5. Pericarpium is a roundiſh, acuminated pod, prickly-pointed, and containing one cell.

6. Semina. The ſeeds are reniforme.

CHAP. XXVI.

BOSEA, YERVA MORA, or GOLDEN-ROD TREE.

THIS genus at preſent conſiſts only of one ſpecies, called,

Yerva Mora, or Golden-Rod Tree.

The plant deſcribed.

The ſtem is woody, robuſt, divides irregularly into branches, and grows to be ten or twelve feet high. The leaves are long, whitiſh underneath, have purple-coloured veins, and continue great part of the winter, but uſually fall off before the ſpring. The flowers come out in cluſters from the ends of the branches; they are of a purple colour, and are ſucceeded by globular berries, which ſeldom ripen in England.

Culture.

This is eaſily propagated by planting the cuttings in the ſpring, in pots filled with light, rich earth. The pots muſt be then ſet in the Green-houſe in the ſhade, and the cuttings muſt be duly watered until they have taken root. After that they muſt be ſet abroad in ſome warm well-ſheltered place, where they may remain, with regular waterings, as often as dry weather ſhall make it neceſſary, until autumn; when they ſhould be taken into the Green-houſe for their winter lodgings, and be ſet abroad again the ſucceeding ſummer with other Green-houſe plants.

Titles.

Yerva Mora

This being the only ſpecies of the genus, it is named ſimply, *Boſea*. Sloane calls it, *Tilia forte racemoſâ, folio longiore ſubtus albicante nervis purpureis inſignito, flore pentapetalo purpureo.* It grows naturally in the Canary Iſlands.

Boſea is of the claſs and order *Pentandria Digynia*; and the characters are,

Claſs and order in the Linnæan Syſtem. The characters.

1. Calyx is a perianthium, compoſed of five equal, roundiſh, concave, erect leaves.

2. Corolla. There is none.

3. Stamina are five awl-ſhaped filaments, longer than the calyx, having ſimple antheræ.

4. Pistillum conſiſts of an oval, oblong, cuſpidated germen, without any ſtyle, but two ſtigmas.

5. Pericarpium is a globular berry, containing one cell.

6. Semen. The ſeed is ſingle, round, and acuminated.

CHAP. XXVII.

BRABEJUM, AFRICAN ALMOND.

THERE is only one ſpecies of this genus yet known, called African Almond.

The plant deſcribed.

The ſtem is upright, woody, but ſoft and full of pith, ten or twelve feet high, ſends out horizontal branches from the ſides, which diminiſh in length as they approach the top; ſo that the ſhape of the tree is nearly a pyramid. The leaves are long, narrow, indented, of a deep-green colour on their upper ſide, but pale underneath, grow on long footſtalks, and ſurround the branches in a radiated manner. The flowers are produced from among the leaves, all round the branches, near the upper part; they are of a pale or whitiſh-red colour, appear in March and April, but are not ſucceeded by fruit in England.

Culture.

This ſpecies is propagated by layers, which muſt be performed in the ſpring on the young ſhoots, making a ſlit at the joint. They ſhould be frequently watered, though in ſmall quantities at a time, becauſe, being very full of pith, they are apt to rot through much moiſture. They are generally two years before they ſtrike root fit to be removed; and when that is effected, they muſt be taken off and planted ſeparately in pots, filled with light, rich earth. They muſt have a good Green-houſe in winter, into which they muſt be early taken in the autumn, and removed out again late in the ſpring, to be ſet abroad with the more tender ſorts of Green-houſe plants.

Titles.

Stellati=folium

This being the only ſpecies, it is called ſimply, *Brabejum*. Breynius calls it, *Amygdalus Æthiopica, fructu holoſericeo*; and Plukenet, *Arbor Æthiopica hexaphylla, foliis circa caulem ad intervalla ſenis*. It grows naturally in Æthiopia.

Claſs and order in the Linnæan Syſtem. The characters.

Brabejum is of the claſs and order *Tetrandria Monogynia*; and the characters are,

1. Calyx. There is none.

2. Corolla is four linear, obtuſe petals, erect in their lower parts, forming a tube, but in their upper turned backward.

3. Stamina are four capillary filaments, inſerted in the ungues of the petals, and ſcarcely ſo long as the corolla, having ſmall antheræ, which open ſideways.

4. Pistillum conſiſts of a ſmall hairy germen, a filiforme ſtyle the length of the ſtamina, and a ſimple ſtigma.

5. Pericarpium is a dry, oval, hairy drupe.

6. Semen. The ſeed is an oval nut.

CHAP. XXVIII.

BRUNIA.

Species.

THERE are ſix diſtinct ſpecies of this genus, viz.

1. Cypreſs *Brunia*.
2. Woolly *Brunia*.
3. Ciliated *Brunia*.
4. Abrotanoide *Brunia*.
5. *Protea Brunia*.
6. One-flowered *Brunia*.

Cypreſs and Woolly Brunia deſcribed.

1. Cypreſs *Brunia*. The ſtalk is woody, of a brown colour, divides into many branches, and three or four feet high. The leaves are narrow, of a ſtrong green colour, and are imbricated in four directions. The flowers are collected in globular heads, but are very inconſiderable, and are not ſucceeded by ripe ſeeds in England.

2. Woolly *Brunia*. The ſtalk is woody, ſends out many woolly branches from the ſides, and

grows three or four feet high. The leaves are narrow, ſlender, and ſpreading. The flowers are collected in ſmall heads like the former, and the ſeeds do not ripen in theſe parts.

Ciliated, 3. Ciliated *Brunia.* The ſtalk is woody, branching, and ſix or eight feet high. The leaves are oval, ciliated, and ſharp-pointed. The flowers are in globular heads, but are ſmall, and have little beauty.

Abrotanoide, 4. Abrotanoide *Brunia.* The ſtalk is woody, branching, and four or five feet high. The leaves are narrow, ſpear-ſhaped, triquetrous, and ſpreading. The heads of the flowers are larger than the others, and are of a white colour.

Protea, 5. *Protea Brunia.* The ſtem is woody, rough, and of a brown colour; the young branches are ſoft and downy. The leaves are oval, oblong, ſoft, and hoary. The flowers are produced in globular heads at the ends of the branches; they appear in Auguſt and September, but are not ſucceeded by ſeeds in England.

and One-flowered Brunia deſcribed. 6. One-flowered *Brunia* is a low, branching ſhrub, covered with a brown bark. The leaves are ſmall, compreſſed, and of a duſky green colour. The flowers ſtand ſingly at the joints; they appear only in the ſummer, and continue in ſucceſſion until the end of autumn.

Culture. All theſe are propagated by planting the cuttings in pots in the ſpring, and plunging them into a hot-bed of tanner's bark. If they are duly watered and kept ſhaded, they will ſoon ſtrike root; after which they ſhould be potted ſeparately, be again plunged into the hot-bed, and be watered and ſhaded as before. When they are eſtabliſhed in their new pots, they muſt be hardened by degrees to the open air; be next ſet abroad in ſome warm well-ſheltered place, to remain there until the autumn; and be then taken into ſhelter with other Green-houſe plants.

They are alſo raiſed by ſeeds procured from Africa. Theſe muſt be ſown in pots filled with light, rich earth, and be plunged into a hot-bed; and when the plants are fit to remove, they muſt be potted ſeparately, and managed like the cuttings.

Titles. Nodiflora. 1. The firſt ſpecies is titled, *Brunia foliis quadrifariam imbricatis.* Breynius calls it, *Cupreſſo-Pinulus capitis b. ſpei*; Plukenet, *Erica capitata ſ. nodiflora cupreſſiformis Africana*; and Ray, *Scabioſæ affinis arbuſcula Africana ericoides ſphærocephalos.* It grows naturally in Æthiopia.

2. The ſecond is, *Brunia foliis linearibus patulis apice calloſis.* Plukenet calls it, *Tamariſcus monomopatenſis, ericæ tenuiſſimo folio, pilulifera, ramulis lanugine aranearum inſtar implexis.* It grows naturally in Æthiopia. Lanuginosa.

3. The third is, *Brunia foliis ovatis acuminatis ciliatis.* It grows naturally in Æthiopia. Ciliata.

4. The fourth is, *Brunia foliis lineari-lanceolatis patentibus triquetris apice calloſis.* Burman calls it, *Brunia foliis creberrimis lanceolatis floribus conglobatis*; Ray, *Leviſanus Africanus, ericæ folio, capitulo majore*; Petiver, *Leviſanus Capenſis, ſerpylli folio*; and Plukenet, *Erica capitata ſ. nodiflora, corios foliis rectis, Æthiopica.* It grows naturally in Æthiopia. Abrotanoides.

5. The fifth is, *Brunia foliis ſpatulatis acutis carnoſis.* In the former edition of the *Species Plantarum* it is termed, *Protea foliis ovatis obtuſis imbricatis, capitulis globoſis.* Van Royen calls it, *Protea foliis oblongo-ovatis lanâ obvolutis*; Burman, *Brunia foliis oblongis incanis, florum capitulo ramulum terminante*; Boerhaave, *Conocarpodendron folio ſubrotundo breviſſimo*; and Plukenet, *Chryſanthemum fruticoſum, polygoni foliis, Africanum, caulibus ſcabris, flore minore.* It grows naturally in Æthiopia. Levisanus.

6. The ſixth is, *Brunia floribus ſolitariis.* Plukenet calls it, *Ericæformis Æthiopica, cupreſſi foliis compreſſiuſculis.* It grows naturally in Æthiopia. Uniflora.

Brunia is of the claſs and order *Pentandria Monogynia*; and the characters are, Claſs and order in the Linnæan Syſtem; The characters.

1. CALYX. The common perianthium is roundiſh, imbricated, and holds many flowers; the leaves of which it is compoſed are narrow and acute.

The proper perianthium is compoſed of five oblong, hairy leaves, ſhorter than the corolla.

2. COROLLA conſiſts of five petals; their ungues are ſlender, and the length of the calyx; their tops are roundiſh and ſpreading.

3. STAMINA. Theſe are five capillary, flaccid filaments, longer than the corolla, inſerted in the ungues of the petals.

4. PISTILLUM conſiſts of a very ſmall germen, a ſimple ſtyle the length of the corolla, and a bifid ſtigma.

5. PERICARPIUM. There is none. The general receptacle ſeparates the proper perianthium by ſmall hairy ſcales.

6. SEMINA. The ſeeds are ſingle, and ſomewhat hairy.

CHAP. XXIX.

BRYONIA, BRIONY.

THE more tender perennial ſpecies of this genus are,

Species.
1. The Æthiopian Briony.
2. The Smooth Palmated-leaved Briony of Ceylon.
3. The Rough Palmated-leaved Briony of Ceylon.
4. The Heart-leaved Briony of Ceylon.

Æthiopian, 1. The Æthiopian Briony has a large tuberous root, from which iſſue ſeveral ſlender ſtalks in the ſpring, and which conſtantly die to the root in the autumn. The leaves are palmated, and ſmooth on both ſides; each of them is divided into five parts, which are cut in ſuch a manner as to reſemble a winged leaf. The flowers are of an herbaceous colour, appear in July, and ſometimes are ſucceeded by ripe ſeeds in the autumn.

Smooth Palmated-leaved,

2. Smooth Palmated-leaved Briony of Ceylon. This plant hath ſeveral ſlender, rambling ſtalks, which are garniſhed with ſmooth, palmated leaves; each of them is divided into five parts, and the ſegments are ſpear-ſhaped, ſerrated, and bend backward. It flowers about July, and ſometimes produces ripe ſeeds in the autumn.

Rough Palmated-leaved,

3. Rough Palmated-leaved Briony of Ceylon. This plant hath many large, palmated leaves, which are exceedingly rough; each is divided into five parts, which are very much jagged, or cut, into ſeveral ſpear-ſhaped, ſerrated ſegments. The flowers are of a yellow colour, appear in July, and are ſucceeded by red fruit in the autumn.

and Heart-leaved Briony of Ceylon deſcribed.

4. Heart-leaved Briony of Ceylon. The leaves of this plant are heart-ſhaped, oblong, five-cornered, indented, and very rough. It flowers at the ſame time with the others, but it requires a warm ſeaſon to bring the ſeeds to perfection.

Culture.

Theſe ſorts are eaſily raiſed by ſowing the ſeeds, in a moderate hotbed, in the ſpring. After the plants come up, great care muſt be taken to give them air to prevent their being drawn up too weak; and when they are of a ſize to tranſplant, each ſhould be ſet in a ſeparate pot, which ſhould be immediately plunged into a ſecond hotbed. The plants muſt be frequently watered, though ſparingly at a time; the glaſſes muſt be covered in the heat of the day, but their edges muſt be raiſed to admit the air; and by about the middle of June the plants muſt be ſo hardened as to live abroad; you may, therefore, let them remain in the hotbed, the glaſſes being entirely taken off; or you may ſet them abroad with other Green-houſe plants. In winter they muſt be placed in a warm part of the Green-houſe, and muſt have but very little water during that ſeaſon; but when they begin to ſhoot out in the ſpring, water muſt be frequently given them, though but little at a time; and when you ſet them abroad, for their ſummer's expoſure, you cannot well give them too much.

Titles.

1. The Æthiopian Briony is titled, *Bryonia foliis palmatis quinquepartitis utrinque lævibus: laciniis pinnatifidis.* In the *Hortus Cliffort.* it is termed, *Bryonia foliis palmatis quinquepartitis: ſubtus punctato-calloſis; ſupra lævibus, lobis laciniatis.* Herman calls it, *Bryonia Africana laciniata, tuberoſâ radice, floribus herbaceis.* It grows naturally in Æthiopia.

Africana.

2. Smooth Palmated-leaved Briony of Ceylon is titled, *Bryonia foliis palmatis lævibus quinquepartitis: laciniis lanceolatis repando-ſerratis.* Burman calls it, *Bryonia Zeylanica, folio quinquepartito.* It grows naturally in Ceylon.

Palmata.

3. Rough Palmated-leaved Briony of Ceylon is titled, *Bryonia foliis palmatis ſcabris: laciniis lanceolatis ſerratis: lateralibus minimis.* Herman calls it, *Bryonia Zeylanica, foliis profundè laciniatis*; another ſort of it he terms, *Bryonia Zeylanica flore luteo, fructu rubro.* It grows naturally in Ceylon.

Laciniosa.

4. Heart-leaved Briony of Ceylon is titled, *Bryonia foliis cordatis oblongis quinquangularibus dentatis ſcabris baſi bidentatis.* Rhumphius calls it, *Vitis alba Indica.* It grows naturally in Ceylon.

Cordifolia.

CHAP. XXX.

BUBON, MACEDONIAN PARSLEY.

THERE are two ſpecies of this genus that are to join our Green-houſe plants,

Species.

1. The African Galbaniferous Mountain Parſley.
2. The African Gummeferous Mountain Parſley.

African Galbaniferous,

1. The African Galbaniferous Mountain Parſley is a large ſhrub, riſing with a woody, purpliſh-coloured, powdered bark, to the height of eight or ten feet. The general leaves are compoſed of many ſmall ones, growing from the joints of the plant; the folioles are of a rhomb figure, ſmooth, and indented. The flowers terminate the ſtalks in umbels, in September; their colour is yellow, and they are ſucceeded by oblong, channelled ſeeds, having a border. Upon breaking the leaves, or indeed any part of the plant, a cream-coloured matter iſſues; from which the *Galbanum* of the ſhops is prepared.

and African Gummeferous Mountain Parſley deſcribed.

2. The African Gummeferous Mountain Parſley will grow to about eight feet high, and the ſtem is woody and branching. The leaves are produced from the joints, and are compoſed of many ſmall ones, which are narrow, ſmooth, and indented. The flowers terminate the ſtalks in umbels; they will be in blow in September, are of a yellow colour, ſmall, and are ſucceeded by oblong, channelled ſeeds, having a border. On breaking the leaves, or any part of this plant alſo, a gummy matter iſſues forth, of the ſame nature with the former, and with the ſtrong ſcent of the *Galbanum*; which makes ſome contend for this being the true *Galbanum* plant: It ſeems to be beyond diſpute, however, that that gum is indiſcriminately collected from both of them.

Culture.

In order to raiſe theſe plants, ſeeds muſt be procured from the places where they naturally grow. On their arrival, they muſt be ſown in pots filled with light, ſandy, rich earth; in the ſpring the pots muſt be plunged into a moderate hotbed, which will greatly facilitate the growth of the ſeeds. When the plants come up, they muſt have as much air as the ſeaſon will permit; but when they are of a ſize to remove, each muſt be ſet in a ſeparate pot, filled with the like kind of rich, light earth, and upon this plunge them into another temperate hotbed; water them well, and ſhade them in the heat of the day; then harden them to the open air by degrees: About the middle of June place them among other Green-houſe plants, and let them accompany them into the houſe in the autumn.

In winter give them little water, and in the ſpring remove them into larger pots; and repeat this as often as you find it neceſſary. The plants will be about three years before you may expect them to flower; but it is very rarely that they ripen their ſeeds with us, which makes it ſo neceſſary, in order to raiſe theſe plants, to procure the ſeeds from abroad.

Titles. 1. The African Galbaniferous Mountain Parſley is titled, *Bubon foliolis rhombeis dentatis glabris ſtriatis, umbellis paucis.* Plukenet calls it, *Aniſum Africanum fruticeſcens, folio aniſi, galbaniferum*; and Herman, *Ferula Africana galbanifera, folio & facie liguſtici.* It grows naturally in Æthiopia. Galbanum.

2. The African Gummeferous Mountain Parſley is titled, *Bubon foliolis glabris: inferioribus rhombeis ſerratis; ſuperioribus pinnatifidis tridentatis.* Commeline calls it, *Ferula Africara galbanifera, folio myrrhidis.* It grows naturally in Æthiopia. Gummifer-um.

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C H A P. XXXI.

B U C H N E R A.

Species. Of this genus are,

1. Aſiatic *Buchnera.*
2. African *Buchnera.*
3. American *Buchnera.*

Aſiatic, 1. Aſiatic *Buchnera.* The ſtalk is tender, ſomewhat ſquare, ſends out a few branches alternately from the ſides, and grows to about a foot high. The leaves are narrow, ſpear-ſhaped, rough, entire, and are placed alternately. The flowers come out from the tops of the ſtalk in long ſpikes, and are of a purple colour; they appear in Auguſt and September, and ripen their ſeeds in the autumn.

African, 2. African *Buchnera.* The ſtalk is ſquare, ſends out branches alternately from the ſides, and grows to near a foot in height. The leaves are ſpear-ſhaped, rough, and ſlightly indented on their edges. The flowers come out in ſpikes at the top of the ſtalks, are of a white colour, and appear about the ſame time as the former.

and American Buchnera deſcribed. 3. American *Buchnera.* The ſtalk is upright, and undivided. The leaves are rough, pointed, indented on their edges, and placed oppoſite to each other. The flowers adorn the tops of the ſtalks a great way down, and are of a fine violet colour; they appear in Auguſt, and ripen their ſeeds in the autumn.

Culture. They are raiſed by ſowing the ſeeds in a hotbed in the ſpring. When the plants are fit to remove, they muſt be planted ſeparately, and plunged into a ſecond hotbed; here they muſt be watered and ſhaded until they have taken root; from this they are to be ſhifted to a third, where they will flower, and perfect their ſeeds in one ſeaſon.

Notwithſtanding this, if they are leſs forward in the ſummer, ſo as to be brought into flower by the autumn, and are then taken into a good Green-houſe, or, what will be better, a temperate ſtove, they will exhibit flowers great part of the winter, and afford plenty of ſeeds for a ſucceſſion.

They may alſo be ſet abroad in the open air, and treated as Annuals; but they generally then flower late in autumn, and the ſeeds rarely ripen. The ſeeds may alſo be ſown late in the ſummer, and the plants treated as Biennials; but then the firſt ſort ſhould be preſerved in a temperate ſtove all winter; the ſecond will do with any tolerable degree of ſhelter; and the third is hardy enough to live abroad through common winters, if the ſituation is dry and well-defended.

Titles. 1. Aſiatic *Buchnera* is titled, *Buchnera foliis integerrimis alternis, calycibus ſcabris.* It grows naturally in Ceylon and China. Asiatica.

2. African *Buchnera* is titled, *Buchnera foliis lanceolatis ſubdentatis, calycibus tomentoſis fructu longioribus.* Plukenet calls it, *Pedunculaus Æthiopica, rutæ caninæ aſpero & fragili folio.* It grows naturally in Æthiopia. Africana

3. American *Buchnera* is titled, *Buchnera foliis dentatis oppoſitis, florum tubo lævi.* Gronovius calls it, *Cortuſæ ſive verbaſci ſpecies, caule non ramoſo, floribus violaceis.* It grows naturally in Virginia and Canada. Americana.

Buchnera is of the claſs and order *Didynamia Angioſpermia*; and the charactser are,

Claſs and order in the Linnæan Syſtem. The characters.

1. Calyx is a monophyllous, rough, permanent perianthium, divided into five parts.

2. Corolla is one petal. The tube is extremely long, filiforme, and arched. The limb is ſhort, plane, equal, and divided into five parts; the two upper ſegments are very ſhort and reflexed; the three lower ones are oboval, and nearly equal.

3. Stamina are four very ſhort filaments in the opening of the flowers, having oblong, obtuſe antheræ.

4. Pistillum conſiſts of an oval, oblong germen, a filiforme ſtyle the length of the tube, and an obtuſe ſtigma.

5. Pericarpium is an oval, oblong, acuminated, covered capſule, containing two cells, and opening two ways at the top.

6. Semina. The ſeeds are numerous, and angular.

CHAP. XXXII.

BUPHTHALMUM, OX-EYE.

BESIDES the Perennials and Annuals already treated of in their proper places, there are ſome ſpecies of this genus of a ſhrubby nature, and which are too tender for our countries, without protection from the inclemencies of the weather. They are called,

Species.
1. The Shrubby Ox-eye of Jamaica.
2. The Bahama Ox-eye.
3. The Cape Ox-eye.
4. The African Ox-eye.

Shrubby Jamaica, 1. The Shrubby Jamaica Ox eye will grow to be eight or ten feet high. The leaves are ſilvery, hoary, ſoft to the touch, and of different ſizes; though in general they are ſpear-ſhaped, and are placed oppoſite on the branches; they grow on footſtalks, and, what is remarkable, near their baſe there is the appearance of two teeth ſtanding upwards. The flowers are produced from the ends of the branches in ſcaly cups, and are of a pale-yellow colour they; will be in blow in July, and often continue to exhibit their bloom until October, but never ripen their ſeeds. There is a variety of this ſpecies that has very thick, oblong leaves, and no teeth to their footſtalks; and alſo another with bright deep yellow flowers, and ſome others of different tints.

Bahama, 2. The Bahama Ox-eye. The ſtalks of this plant are ſhrubby near the bottom, but higher they are rather ſucculent; ſeveral of them ariſe from the ſame root, and they uſually grow to about a yard in height. The leaves are ſpear-ſhaped, ſucculent, hoary on both ſides, and grow oppoſite to each other on the branches. The flowers are produced from the ends of the branches, on moderately long footſtalks; they are large, and of a bright yellow colour; they appear in July, and will often continue their ſucceſſion until October, but their ſeeds are ſeldom brought to perfection. There is a variety of this ſpecies with ſhining green leaves; and another with very narrow leaves, and flowers growing on ſhort footſtalks.

Cape, 3. Cape Ox-eye. The ſtalks of this plant are of a ſhrubby nature, and will grow to about a yard high. The leaves are very narrow, ſpear-ſhaped, recurved, ſlightly indented, and are placed oppoſite on the branches. The flowers are produced from the tops of the branches in leafy cups; they will be in blow in July, and often continue the ſucceſſion for two or three months.

and African Ox-eye deſcribed. 4. African Ox-eye. The ſtalks of this plant are ſhrubby, and will grow to about a yard high. The leaves are ſpear-ſhaped, entire, and are placed alternately on the branches. The flowers are produced from the tops of the branches in July, and, like the others, will often continue ſome months in bloom.

Culture. The propagation of all theſe ſorts is by planting the cuttings in ſmall pots, filled with light, ſandy, freſh earth; July is the beſt month for that purpoſe. As ſoon as this is done, the pots muſt be ſet in the Green-houſe where no ſun can come at them. There they will readily ſtrike root; and when you perceive this, you muſt ſet them abroad in a ſhady part of the garden, but not under the drip of trees, plunging the pots up to the rims in the natural mould: In this ſituation they muſt be frequently watered, and in October muſt be removed into the Green-houſe. During the winter, they muſt have very little water afforded them; and in the ſummer they muſt be ſhifted into larger pots, and placed abroad with other tender plants. Here they muſt be watered often, but not with too great a quantity at a time, for the roots are liable to rot by much moiſture. In October they muſt be removed into the Green-houſe as before, in which they muſt always be placed where they can enjoy as much ſun as poſſible.

Titles. Frutescens. 1. The Shrubby Jamaica Ox-eye is titled, *Buphthalmum foliis oppoſitis lanceolatis, petiolis bidentatis, caule fruticoſo.* Dillenius calls it, *Aſteriſcus fruteſcens, leucoji foliis ſericeis & incanis*; Plumier, *Corona foliis fruteſcens, lychnidis folio carnoſo, flore luteo*; Plukenet, *Chryſanthemum ex inſulis Caribæis, leucoji incanis & ſericeis foliis craſſis*; and Sloane, *Chryſanthemum fruticoſum maritimum, foliis glaucis oblongis, flore luteo.* It grows naturally in Jamaica and Virginia.

Arbores-cens. 2. Bahama Ox-eye is titled, *Buphthalmum foliis oppoſitis lanceolatis utrinque tomentoſis edentulis integerrimis, caule fruticoſo.* Dillenius calls it, *Aſteriſcus fruteſcens, leucoji foliis viridibus & ſplendentibus*; Moriſon, *Chryſanthemum Bermudenſe, folio rigido viridi*; Plukenet, *Chryſanthemum Bermudenſe, leucoji virentibus foliis craſſis*; and Plumier, *Corona foliis fruteſcens, laureolæ folio, flore luteo.* It grows naturally in the Bahama Iſlands.

Capense. 3. The Cape Ox-eye is titled, *Buphthalmum foliis oppoſitis lanceolato-linearibus recurvis denticulato-ciliatis, calycibus acutè folioſis, caule ſuffruticoſo.* It grows naturally at the Cape of Good Hope.

Durum. 4. African Ox-eye is titled, *Buphthalmum foliis alternis lanceolatis integerrimis, caule ſuffruticoſo.* Vaillant calls it, *Aſteriſcus Afer, imo calyce non folioſo*; and Plukenet, *Chryſanthemum Africanum, aſteris facie, imo flore non folioſo, capitulis duris.* It grows naturally at the Cape of Good Hope.

CHAP.

CHAP. XXXIII.

BUPLEURUM, HARE's EAR.

THE Green-houſe ought not to be without two ſpecies of this genus, called,

Species. 1. The Shrubby Cape Hare's Ear.

2. The Shrubby Hairy Æthiopian Hare's Ear.

Shrubby Cape 1. The Shrubby Cape Hare's Ear will grow to about ſix feet high, and the ſtalk is woody and branching. The leaves are of different forms; thoſe in the ſpring are decompounded, being compoſed of many plane lobes, that are finely divided; theſe fall away, and are ſucceeded in the ſummer by long, narrow, angular, trifid, ruſh-like leaves, which are produced in cluſters from the joints. The flowers grow from the ends of the branches in ſpreading umbels; they are ſmall, and of an herbaceous colour; they will be in blow in July, and ripen their ſeeds in the autumn.

and Shrubby Hairy Æthiopian Hare's Ear deſcribed. 2. The Shrubby Hairy Æthiopian Hare's Ear. This plant grows with a ſhrubby, branching ſtalk to the height of about five or ſix feet. The leaves are oblong, indented, hairy, downy underneath, and embrace the ſtalk with their baſe. The flowers are ſmall, and are produced from the extremities of the branches in umbels; they will be in blow in July or Auguſt; and are ſucceeded in Autumn by oblong, channelled ſeeds.

Culture. The moſt expeditious way of propagating theſe ſorts by is planting the cuttings. Theſe muſt be ſet in pots filled with light, freſh earth, in April, and the pots muſt be immediately plunged into a moderate hotbed: At this time they muſt be well watered, which ſhould alſo be carefully repeated every day; they muſt be conſtantly ſhaded in the middle of the day, until they have taken root; the glaſſes muſt be raiſed to give them air, and when the weather is mild, entirely taken away. They will thus be hardened to the open air; and when they have ſtruck good root, and all danger of bad weather is over, they may be taken up, and plunged up to the rims in a ſhady part of the kitchen garden, but not under the drip of trees. In October they muſt be ſet in the Green-houſe, with other tender plants; in the ſpring they muſt have large pots, be ſet abroad, and managed like them.

They may alſo be raiſed from ſeeds. Theſe ſhould be ſown in pots, ſoon after they are ripe, in the autumn; the pots muſt be removed into ſhelter during the continuance of hard froſts in the winter, and in the ſpring muſt be plunged into a gentle hotbed. Your ſeeds will then ſoon come up; and when they are of a ſize to tranſplant, each ſhould be ſet in a ſeparate ſmall pot. On this removal, they ſhould have the aſſiſtance of a moderate warmth; and when they have taken root they muſt be hardened by degrees to the air, and muſt afterwards have the ſame management as the cuttings.

Titles. 1. The Shrubby Cape Hare's Ear is titled, *Bupleurum fruteſcens, foliis vernalibus decompoſitis planis inciſis, æſtivalibus filiformibus angulatis trifidis.* Van Royen calls it, *Bupleurum foliis radicalibus pinnato-inciſis, caulinis faſciculatis tetragonis*; and Burman, *Bupleurum fruteſcens, foliis ex uno puncto plurimis junceis tetragonis.* It grows naturally at the Cape of Good Hope. Difforme.

2. Shrubby Hairy Æthiopian Hare's Ear is titled, *Bupleurum fruteſcens, foliis amplexicaulibus dentatis ſubtus villoſis.* Burman calls it, *Perfoliata foliis oblongis ſinuoſis ſubtus incanis.* It grows naturally in Æthiopia. Villoſum.

CHAP. XXXIV.

CACALIA, AFRICAN COLT's FOOT.

THE tender ſpecies of this genus are,

1. Papillary *Cacalia.*

2. *Anteuphorbium.*

Species. 3. *Kleinia*, or Lavender-leaved Indian *Cacalia.*

4. African Tree Groundſel.

Papillary, 1. Papillary *Cacalia.* The ſtalk of this is large, thick, fleſhy, and divides irregularly into a few branches. The leaves come out all around the ſtalks, and poſſeſs the remarkable property of falling off from their footſtalks, leaving thoſe, however, ſtill faſtened to the main ſtem, which appears guarded by them all around: They are long, narrow, and very ſucculent; and the footſtalks being thick and ſtrong, and remaining on the plant after the leaves are fallen, cauſe a ſingular look.

Anteuphorbium. 2. *Anteuphorbium.* This is ſo called from the quality it poſſeſſes, which is ſuppoſed to be contrary to the *Euphorbium.* It ſends forth many ſucculent ſtalks from the root, which divide, without order, into others that are ſmaller. The leaves are oval, oblong, flat, ſucculent, and grow alternately on footſtalks, under each of which a triple line is drawn, and continued on along the branches. I have never ſeen the flowers of either of theſe ſorts.

Kleinia or Lavender-leaved Indian Cacalia deſcribed. 3. *Kleinia*, or Lavender-leaved Indian *Cacalia.* By ſome gardeners this is called the Cabbage-tree; by others the Carnation-tree. The ſtalks are thick, fleſhy, ſucculent, ſwell between the joints, and divide irregularly into a few branches. The leaves are long, narrow, of a glaucous colour, grow all around the branches without order, and, as they fall off, leave the impreſſion or mark on the branches where they growed, which always continues. The flowers come out in large cluſters from the ends of the branches; they are of a faint carnation colour, come out in Auguſt, and will often continue in ſucceſſion near three months, but are not ſucceeded by any ſeeds in our gardens.

African-Tree Groundſel deſcribed. 4. African-tree Groundſel. The ſtalks of this are round, ſtrong, ſhrubby, ſucculent, branching, and grow to about ſeven or eight feet high. The leaves are very thick, fleſhy, ſpear-ſhaped, pointed, compreſſed, powdered, and when broken emit a viſcous juice, of the ſmell of turpentine. The flowers are produced in ſmall umbels from the ends of the branches; their colour is white; and they chiefly make their appearance the latter end of the ſummer, though they ſometimes ſhew themſelves in winter, and early in the ſpring.

Culture. The culture of all theſe ſorts is very eaſy. Take the cuttings off in any of the ſummer months, and let them lie until the wound is healed; then plant them in pots, filled with ſandy, poor earth; they will readily grow, and in the autumn muſt be removed into the glaſs-caſe, with other ſucculent plants, or ſet under an hot-bed frame, in which they will do very well. In ſummer they ſhould be always ſet abroad in a well-ſheltered ſituation, and muſt be now and then watered, if the weather ſhould prove dry; but in the winter, they ſhould have little or no water, as it has a great tendency to cauſe them to rot at that ſeaſon.

The cuttings are generally ten days, or a fortnight after they are taken off, before the wounds are healed ſufficient for planting; but if thoſe of the firſt, third, and fourth ſort are kept out of the ground, they will grow.

Theſe, being the largeſt growing kinds, muſt be ſhifted, as there is occaſion, into pots of a larger ſize; any time in the ſummer is a good ſeaſon for the work, and the ſoil can hardly be too ſandy and poor.

Titles. 1. Papillary *Cacalia*. This is titled, *Cacalia caule fruticoſo obvallato ſpinis petiolaribus truncatis.* In the *Hortus Cliffort.* it is termed, *Kleinia caule carnoſo, petiolis truncatis obvallato.* Dillenius calls it, *Cacalianthemum caudice papillari.* It grows naturally in Æthiopia. Papillaris.

2. *Anteuphorbium.* This is titled, *Cacalia caule fruticoſo, foliis ovato-oblongis, petiolis baſi lineâ triplici deductis.* In the *Hortus Cliffort.* it is termed, *Kleinia foliis carnoſis planis ovato-oblongis.* Caſpar Bauhine and others call it, *Ante-Euphorbium.* It grows naturally in Æthiopia. Anteuphorbium.

3. Lavender-leaved Indian *Cacalia.* This is titled, *Cacalia caule fruticoſo compoſito, foliis lanceolatis planis, petiolorum cicatricibus obſoletis.* In the *Hortus Cliffort.* it is termed, *Kleinia foliis lanceolatis planis, caule lævi ventricoſo.* Dillenius calls it, *Cacalianthemum folio nerii glauco*; and Caſpar Bauhine, *Frutex Indiæ orientalis, lavendulæ folio.* It grows naturally in the Canary Iſlands. Kleinia.

4. African Groundſel-tree is titled, *Cacalia caule fruticoſo, foliis compreſſis, carnoſis.* In the *Hortus Cliffort.* it is termed, *Kleinia foliis carnoſis lanceolatis compreſſis, caule tereti.* Commeline calls it, *Senecio Africanus arboreſcens, ficoidis folio & facie.* It grows naturally in Æthiopia. Ficoides.

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CHAP. XXXV.

CACTUS, MELON THISTLE.

Species. IN our Green-houſes is found only one ſpecies of this genus, commonly called, Indian Fig.

The plant deſcribed. It is compoſed of a multitude of articulations, joints, or branches, which are looſely diſpoſed, and in old plants ſpread every way; they are of an oval figure, compreſſed, fleſhy, knotty on the ſurface, where there are ſituated a few ſhort, briſtly ſpines, which ſoon fall off. The flowers are produced from the ſides and upper parts of theſe articulations, or branches, ſitting on the germen; they are of a pale-yellow colour, appear in July and Auguſt, and are ſucceeded by oblong, prickly, purpliſh fruit, which ſometimes ripens in our gardens.

Culture. This is propagated by planting the joints, or branches, ſingly in pots filled with light, ſandy earth; any of the ſummer months is a proper ſeaſon for the work. When they are taken off, they ſhould be laid by a few days to dry; and after they are planted, they may be ſet abroad in any part of the garden, and at the end of autumn may be removed into ſhelter, with the hardieſt of the Green-houſe plants: From time to time they muſt be ſhifted into larger pots, as they require it; and the branches ſhould be trained up to proper ſticks thruſt down for their ſupport, otherwiſe they will lie on the ground, and frequently ſtrike root at the joints. This ſpecies is hardy, and requires only to be protected from froſts in this climate; for which reaſon, when a ſufficient number of theſe plants is obtained, a ſhare of them may be ſet abroad in ſome dry, warm, ſandy, or rubbiſhy well-ſheltered places, to take their chance of the weather, as it ſhall happen.

Titles. This ſpecies is titled, *Cactus articulato-prolifer laxus, articulis ovatis, ſpinis ſetaceis.* In the *Hortus Cliffort.* it is termed, *Cactus compreſſus articulatus ramoſiſſimus, articulis ovatis*; *ſpinis ſetaceis.* Caſpar Bauhine calls it, *Ficus Indica, folio ſpinoſo, fructu majore*; and John Bauhine, *Opuntia vulgo herbariorum.* It grows naturally in Virginia, Peru, Italy, Spain, and Portugal. Opuntia.

Claſs and order in the Linnæan Syſtem. The characters. *Cactus* is of the claſs and order *Icoſandria Monogynia*; and the characters are,

1. Calyx is a monophyllous, tubular, concave, deciduous perianthium, ſitting on the germen, and covered with ſeveral ſquamoſe leaves.

2. Corolla conſiſts of numerous, broad, obtuſiſh petals, the outer ones being the ſhorteſt, and the interior largeſt and connivent.

3. Stamina are numerous awl-ſhaped filaments, inſerted in the calyx, having oblong, erect antheræ.

4. Pistillum conſiſts of a germen below the receptacle, a cylindrical ſtyle the length of the ſtamina, and a capitated, multifid ſtigma.

5. Pericarpium is an oblongiſh, umbilicated berry, containing one cell.

CHAP. XXXVI.

CALENDULA, MARIGOLD.

OF this genus are two ſpecies, which require a little protection from the inclemencies of our winters, called,

Species.

1. The Graſs-leaved Marigold.
2. The Shrubby Marigold.

Graſs-leaved

1. Graſs-leaved Marigold is a perennial plant, which puts forth ſeveral tufted heads near the root, in the manner of Thrift. From theſe heads grow numerous long, narrow, graſs-like leaves, ſome of which are ſlightly indented, but the greateſt part of them are entire. From among theſe leaves the flower-ſtalks ariſe; they are naked, half a foot or nine inches long, and the top of each is terminated by a fair flower. This is about the ſize of the common Marigold; the rays on the outſide are purple, but of a pure white within; and the center of the flower is of a purple colour. They come out in April and May, but the roots will often continue to produce flowers the greateſt part of the ſummer and autumn; they cloſe in evenings and in rainy weather, and are never ſucceeded by good ſeeds in our gardens.

and Shrubby Marigold deſcribed.

2. Shrubby Marigold. The ſtalks of this are woody, but ſlender, and not ſtrong enough to ſupport the plant in an upright poſition. The branches alſo are weak and hang down, and the length of the whole plant is about ſeven feet. The leaves are oval; ſome of them are indented, others entire; their upper ſurface is of a ſhining green colour, but they are pale underneath, and grow on ſhort, flat footſtalks. The flowers are produced from the tops of the branches on ſhort, naked footſtalks; the rays are purple on the outſide, white within, and the center of the flower is purple: They come out early in ſummer, continue the ſucceſſion of bloom until autumn, and frequently produce good ſeeds, which are heart-ſhaped and flat.

Culture.

The firſt ſort is propagated by dividing the heads, and planting each in a ſeparate pot, filled with light, freſh earth. If this work be done either in the autumn or the ſpring, the beſt way will be to plunge the pots up to the rims in a moderate hotbed; but if it be performed in the ſummer, they will ſoon ſtrike root, if ſet in a ſhady part of the Green-houſe; from whence they muſt be removed into the open air, as ſoon as you find they are in a growing ſtate: They alſo may be plunged up to the rims at firſt in the common mould, and covered with hand-glaſſes; by all which ways they are eaſily encreaſed. In the autumn they ſhould be removed into the Green-houſe, and placed where they may have as much air as poſſible. They are tolerably hardy, and want only to be protected from froſts: Much wet alſo is injurious to them; which ſhould caution the Gardener to give it them but ſparingly, eſpecially in the winter ſeaſon.

This ſort ſometimes produces good ſeeds. When this happens, ſow them in the autumn in pots filled with good, light earth; place theſe in a well-ſheltered warm ſituation all winter, and in the ſpring plunge them into a moderate hot-bed: This will readily bring up the plants. At this time all weeds muſt be cleared off, they muſt have as much air as poſſible, and now and then a ſmall ſprinkling of water; after that they muſt be inured to the open air; and when they are of a ſize to tranſplant, each ſhould be ſet in a ſeparate pot, and the plants ſhould be managed as the ſlips.

The ſecond ſort is propagated by planting of the cuttings in pots filled with light, undunged earth. Theſe ſhould then be well watered, and plunged up to the rims in the ſhade; watering muſt be repeated as often as dry weather makes it neceſſary, and in a little time they will ſtrike root. In the autumn, when they are to be removed into the Green-houſe, they ſhould be placed where they can have as much free air as poſſible; for the plant is tolerably hardy, and requires protection only from the keenneſs of our froſts.

Titles.

1. Graſs-leaved Marigold. This is titled, *Calendula foliis linearibus ſubintegerrimis, caule ſubnudo.* Van Royen calls it, *Calendula foliis linearibus denticulatis & integerrimis*; Herman, *Calendula Africana, foliis gramineis rariùs dentatis aureis*; Boerhaave, *Caltha Africana, foliis croci anguſtis, florum petalis externè purpuraſcentibus, internè albis*; Plukenet, *Calendula Africana ſurrecta, roriſmarini folio*; Vaillant, *Dimorphotheca ſtatices folio*; and Commeline, *Bellis Africana, florum pediculis folioſis, foliis anguſtis & integris.* It grows naturally in Æthiopia.

Graminifolia.

2. Shrubby Marigold. This is titled, *Calendula foliis obovatis ſubdentatis, caule fruticoſo.* Van Royen calls it, *Calendula foliis obverſè ovatis denticulatis, caule perenni.* It grows naturally at the Cape of Good Hope.

Fruticosa.

CHAP. XXXVII.

CALLA, AFRICAN *ARUM*.

Species. OF this genus is a beautiful ſpecies, called, Sweet *Calla*, or African *Arum*.

The plant deſcribed. The root is tuberous, fleſhy, brown without, white within, tender, and poſſeſſed of ſeveral thick, fleſhy fibres. The leaves are large, arrow-headed, but nevertheleſs ſomewhat heart-ſhaped, waved on their edges, pointed, and of a gloſſy green colour. The ſtalk is upright, firm, ſmooth, and two feet high. The flowers are produced from the tops of the ſtalks in a yellowiſh club, iſſuing from a ſpatha in the manner of our common *Arum* or Wake-Robin; the inſide of the ſpatha is white; the flowers are extremely ſmall, whitiſh, and of a muſky fragrance, eſpecially in evenings; they appear in May, and are ſucceeded by roundiſh, fleſhy, red berries, which ripen in Auguſt.

Culture. This plant is eaſily propagated by offsets from the root, which it produces in abundance; the beſt time for taking them off is September, when the ſtalks decay. They ſhould be then planted ſingly in pots filled with good light earth, and may be ſet in ſome ſheltered place, until the end of autumn; when they ſhould be taken into the houſe, with the hardieſt Green-houſe plants.

It is alſo propagated by ſeeds. Theſe ſhould be ſown in pots or boxes filled with light earth, ſoon after they are ripe. The pots or boxes muſt be ſet under a hotbed frame, or taken into the Green-houſe in the winter, to protect them from froſt; and in the ſpring the plants will come up. They muſt be then frequently, tho' ſparingly watered, and ſet abroad in the ſummer; and when the leaves are decayed, muſt have a little mould ſifted over them. In the winter they muſt be ſtationed in the Green-houſe, where they muſt have but very little water, which is apt to rot them at that ſeaſon: In Auguſt or September following they may be taken up, potted ſingly, and managed as the offsets. It is generally four years before theſe plants can be brought to flower from ſeeds, which makes this method hardly worth practiſing, unleſs when offsets are no ways to be obtained. After a good ſtock of theſe plants is raiſed, a ſhare of them may be ſet abroad in ſome dry, warm, well-ſheltered place, for they are tolerably hardy, and in ſuch ſituation they will frequently live through our winters.

Titles. Æthiopica. This ſpecies is titled, *Calla foliis ſagittato-cordatis, ſpathâ cucullatâ, ſpadice ſupernè maſculo.* Commeline calls it, *Arum Æthiopicum, flore albo odorato moſchum olente*; and Micheli, *Arum Americanum, ari vulgaris facie, foliis carnoſis.* It grows naturally in Æthiopia.

Claſs and order in the Linnæan Syſtem. *Calla* is of the claſs and order *Gynandria Polyandria*; and the characters are,

The characters. 1. CALYX. The ſpatha is monophyllous, large, oval, heart-ſhaped, pointed, patent, permanent, and coloured on the upper part. The ſpadix is digitiforme, ſimple, erect, and covered with the fructifications.

2. COROLLA. There is none.

3. STAMINA are ſome permanent, compreſſed, truncated filaments, intermixed with the germens, and the length of the piſtils, having ſimple, truncated, ſeſſile antheræ.

4. PISTILLUM conſiſts of a roundiſh, obtuſe germen, a very ſhort ſimple ſtyle, and an acute ſtigma.

5. PERICARPIUM is a globular, four-cornered, pulpy berry, containing one cell.

6. SEMINA. The ſeeds are few, oblong, cylindrical, and obtuſe at both ends.

CHAP. XXXVIII.

CAMPANULA, BELL-FLOWER.

Species. THE more tender ſpecies of this genus are,

1. American Bell-Flower.
2. Canary Bell-Flower.
3. Shrubby African Bell-Flower.

American Bell-Flower deſcribed. 1. The American Bell-Flower is rather a Biennial plant, it uſually dying after it has flowered; but as it often puts out off-ſets from the bottom, and is too tender to live abroad through our winters, I grant it a place in the Green-houſe. The ſtalks are branching, and will grow to about a foot and half high. The leaves are heart and ſpear-ſhaped; are rigid, crenated, grow on ciliated foot-ſtalks, and have a membranaceous border. The flowers are produced from the wings of the leaves on long footſtalks; they are bell-ſhaped, and compoſed of five parts, and at the bottom of each is a conſpicuous nectarium; they appear in July and Auguſt, and ſeldom ripen their ſeeds in England.

Varieties.

The Varieties of it are,
The Single White.
The Single Blue.
The Double Blue.

Culture.

They are eaſily raiſed by ſowing of the ſeeds in May. Theſe muſt be procured from the places where they naturally grow. All ſummer keep them clean from weeds, and water them ſparingly; and in September plant each of them in a ſeparate pot filled with light, freſh, and undunged earth. Shade them until they have taken root; and in October remove them into the Green-houſe. In the ſpring ſet them abroad, with the other plants; and when they ſhoot up for flowering, nip off ſome of the ſtalks to make them ſpread at the roots. In July, Auguſt, or September take off the off-ſets, plant them in pots, and manage them as the ſeedlings.

This method muſt always be practiſed for the double ſort; though the beſt way, if you can have the conveniency of getting the ſeeds, is to keep up your ſtock of plants that way; for they always flower ſtronger, and are more beautiful than thoſe that have been raiſed from off-ſets taken from old roots.

Canary Bell-Flower deſcribed.

2. Canary Bell-Flower. The root of this plant is thick, fleſhy, and ſtrikes deep into the ground. The ſtalks are round, tender, of a pale-green colour, ſend forth ſeveral branches from the ſides, and will grow to ſeven or eight feet high. The leaves are haſtated, indented, and grow oppoſite on footſtalks at the joints. The flowers are large, and they grow from the joints of the ſtalks, hanging downward; they are of a fire-colour, marked with ſtreaks of a browner red; they appear in Auguſt, and will often continue the ſucceſſion of blow all winter.

Culture.

It is propagated by parting of the roots, in July, ſoon after the ſtalks decay. Theſe roots are very tuberous, and plentifully emit a milky juice; ſo that after the off-ſets are taken off, they muſt be laid in an airy place a few days to heal, otherwiſe there would be great danger of their rotting. When the wounded parts are ſkinned over, let each off-ſet be planted in a pot filled with light, ſandy, rubbiſhy earth. Shade them until they have taken root; and if the weather ſhould prove very dry, now and then give them a ſmall ſprinkling of water; but let this be done with moderation, for too much wet at firſt will rot the roots.

In Auguſt the plants will ſhew themſelves in a flouriſhing ſtate. When the cold dews come on in September, it would be proper to ſet the plants under an hotbed-frame in nights, letting them always be uncovered in the day-time. When they are grown too large for this, remove them into the Green-houſe, or into a glaſs-caſe; in theſe places they ſhould have as much free air as poſſible, and ſhould be frequently, though very ſparingly at a time, watered. In the ſpring they ſhould be ſet abroad, with other tender plants, when more water muſt be granted them. In June the ſtalks will decay, when watering muſt be wholly omitted until the middle or end of Auguſt, at which time they will ſhoot up afreſh.

Shrubby-African Bell-Flower deſcribed.

3. Shrubby African Bell-Flower. The ſtalks of this plant are woody, and branching. The leaves are very narrow, awl-ſhaped, and not much unlike thoſe of Heath. The flowers are blue, and are produced from the wings of the branches on long footſtalks; they are ſucceeded by capſules of five cells, containing the ſeeds.

Culture.

Theſe plants are raiſed by ſowing the ſeeds on a moderate hotbed, in the ſpring. When the plants come up, they muſt have as much free air as poſſible, to prevent their drawing weak, and muſt have water frequently. As the weather will permit, they muſt be hardened more and more to the air. When they are of a ſize to tranſplant, they ſhould be ſet in ſmall pots filled with light, ſandy earth; and the pots ſhould immediately be plunged into a ſecond hotbed. The plants ſhould be well-watered and ſhaded, until they have taken root; when they are ſufficiently hardened to the air, they may be ſet abroad, with other tender plants, and removed with them into the Green-houſe, in October.

Titles.

Americana

1. American Bell-Flower is titled, *Campanula foliis cordatis lanceolatiſque, petiolis ciliatis, floribus ſecundis, corollis quinquepartitis planis.* Van Royen calls it, *Campanula caule ramoſo, foliis linguiformibus crenulatis, margine cartilagineo*; Herman, *Campanula minor Americana, foliis rigidis, flore cæruleo patulo*; and Dodart, *Trachelium Americanum minus, flore cæruleo patulo.* It grows naturally in Penſylvania.

Canariensis

2. Canary Bell-Flower is titled, *Campanula capſulis quinquelocularibus, foliis haſtatis dentatis oppoſitis petiolatis.* In the *Hort. Cliff.* it is termed, *Campanula foliis haſtatis dentatis, caule determinante folioſo.* Plukenet calls it, *Campanula Canarienſis regia, ſive medium, radice tuberoſâ, foliis ſinuatis cæſiis atriplicis æmulis ternis circum caulem ambientibus, flore amplo pendulo: colore flammeo rutilante.* It grows naturally in the Canary Iſlands.

Fruticosa

3. Shrubby African Bell-Flower is titled, *Campanula capſulis quinquelocularibus columnaribus, caule fruticoſo, foliis lineari-ſubulatis, pedunculis longiſſimis.* Herman calls it, *Campanula Africana, ericæ folio, flore cæruleo patulo.* It grows naturally at the Cape of Good Hope.

CHAP. XXXIX.

CANNA, INDIAN FLOWERING REED.

Species.

THERE are three diſtinct ſpecies of this genus, called,

1. Common Indian Flowering Reed.
2. Narrow-leaved Indian Flowering Reed.
3. Glaucous *Canna*.

Common Indian Flowering Reed deſcribed.

1. Common Indian Flowering Reed. The root is tuberous, thick, and fleſhy. The leaves are broad in the middle, but narrow at the baſe, pointed, ribbed, and of a pale-green colour. The ſtalk is round, upright, jointed, and grows to three or four feet high. The flowers are produced from the tops of the ſtalks in looſe ſpikes; they are of different colours in the different varieties; they appear in June and July, and ripen their ſeeds in the autumn.

Varieties.

The varieties of this ſpecies are,
Scarlet *Canna*.
Red Flowering *Canna*.
Yellow *Canna*.
Spotted *Canna*.

Narrow-leaved Indian Flowering Reed deſcribed.

2. Narrow-leaved Indian Flowering Reed. The root of this plant is ſlender, but fleſhy and tuberous. The leaves are ſpear-ſhaped, nervoſe, and grow on footſtalks. The ſtalks are round, ſucculent, tender, and grow to about a foot high. The flowers are produced in ſpikes from the tops; they appear in June and July, and ripen their ſeeds in the autumn.

Varieties.

The varieties of this ſpecies are,
The Red *Canna*.
The Yellow *Canna*.

Glaucous Canna deſcribed.

3. Glaucous *Canna*. The root is very thick, tuberous, knotty, and ſends forth many fleſhy fibres, which ſtrike deep into the ground. The leaves are very long, ſmooth, and of a fine glaucous colour. The ſtalks are upright, round, ſoft, of a pale-green colour, and grow to ſeven or eight feet high. The flowers are produced in ſpikes from the tops of the ſtalks, and are of a pale-yellow colour; they appear in June and July, and ripen their ſeeds in the autumn.

Culture.

Theſe plants are raiſed by ſowing the ſeeds in a hotbed, in the ſpring. When the plants are fit to remove, they muſt be ſet in ſmall pots, and be again plunged into a hotbed. Here they muſt be watered and ſhaded, until they have taken root; muſt then be hardened to the open air, and ſet abroad in ſome warm, well-ſheltered place, where they may remain until the end of October, when they may be taken into the Green-houſe. About the middle of May following, a ſhare of the plants may be ſet in a warm border, being careful to diſturb the roots as little as poſſible, and they will then flower the ſummer following.

Theſe plants are alſo propagated by parting of the roots; but the plants raiſed this way flower leſs frequent, and are always of inferior beauty to the ſeedlings.

Titles.

1. Common Indian Flowering Reed is titled, *Canna foliis ovatis utrinque acuminatis nervoſis.* In the *Hort. Cliff.* it is termed, *Canna ſpatulis bifloris.* Caſpar Bauhine calls it, *Arundo Indica latifolia*; and Rhumphius, *Cannacorus.* It grows naturally in Africa, Aſia, and America.

Indica

2. Narrow-leaved Indian Flowering Reed is titled, *Canna foliis lanceolatis petiolatis nervoſis.* In the *Hort. Cliff.* it is termed, *Canna foliis lanceolatis petiolatis.* Moriſon calls it, *Arundo Indica florida anguſtifolia.* It grows naturally in America.

Angustifolia

3. Glaucous *Canna* is titled, *Canna foliis petiolatis lanceolatis enervibus.* In the *Hort. Cliff.* it is ſimply termed, *Cannoides.* Dillenius calls it, *Cannacorus glaucophyllus, ampliore flore, iridis paluſtris facie.* It grows naturally in Carolina.

Glauca

Claſs and order in the Linnæan Syſtem. The characters.

Canna is of the claſs and order *Monandria Monogynia*; and the characters are,

1. Calyx is a perianthium, compoſed of three ſmall, erect, ſpear-ſhaped, coloured, permanent leaves.

2. Corolla is one petal, divided into ſix parts. The ſegments are ſpear-ſhaped, and coaleſce at their baſe; the three exterior ſegments are erect, and larger than the calyx; the three interior ſegments are larger than the exterior ones; and two of them are erect, the other reflexed.

There is a petaloide nectarium the length and ſhape of the petals, divided into two parts; the upper ſegment being riſing, the lower revoluted.

3. Stamina. There is never a filament, but a linear anthera, growing to the margin of the upper ſegment of the nectarium.

4. Pistillum conſiſts of a rough, roundiſh germen ſituated below the calyx; one enſiforme ſtyle the length and figure of the petal, growing to the antheriferous nectarium; and a linear ſtigma, adhering to the edge of the ſtyle.

5. Pericarpium is a roundiſh, rough coronated, triſulcated, trivalved capſule, containing three cells.

6. Semina. The ſeeds are few, and globular.

CHAP. XL.

CAPPARIS, The CAPER SHRUB.

Plant deſcribed.

THERE are ſeveral tender ſpecies of this genus; but there is one which will live in the Green-houſe, and even abroad, in mild winters, on old walls and rubbiſhy places, called, the Caper Shrub. The ſtalks are woody, three quarters of an inch thick, branching, and armed with ſhort, crooked ſpines. The leaves are roundiſh, ſmooth, entire, and grow alternately on ſhort footſtalks. The flowers are produced ſingly on long footſtalks, are large, of a white colour, and very beautiful; they are ſucceeded by fleſhy, oval berries, containing the ſeeds, which ſeldom ripen in England.

The flower-buds of this ſhrub, gathered and pickled before the petals are expanded, are the Capers uſed in ſauces.

Culture.

This plant is propagated by ſeeds; which muſt be ſown in pots filled with light, rubbiſhy earth. In the ſpring it will be proper to plunge the pots into a moderate hotbed to bring up the ſeeds, which otherwiſe frequently remain unactive two years. When the plants are three inches high, each ſhould be ſet in a ſeparate pot; and if they are aſſiſted by a moderate warmth of dung or tanners bark, they will more ſpeedily take root. After that, they may be ſhifted at pleaſure; either into larger pots, turning the mould out with the roots, to be preſerved in the Green-houſe; or a part of them may be ſet upon old walls, ruins, or rubbiſhy places, where they will ſurvive our temperate winters, and frequently continue many years. It may alſo be propagated by layers, performed on the young branches, in the manner practiſed for layering carnations; but theſe are generally two years before they ſtrike root.

Trees alſo are annually imported from Italy with oranges, &c. but, by being long out of the ground, are with more difficulty made to grow, and are generally of inferior beauty to thoſe raiſed from ſeeds in our own gardens.

Titles. Spinoſa.

The Caper Shrub is titled, *Capparis pedunculis ſolitariis unifloris, ſtipulis ſpinoſis, foliis annuis, capſulis ovalibus.* In the *Hort. Cliff.* it is termed, *Capparis aculeata.* Caſpar Bauhine calls it, *Capparis ſpinoſa, fructu minore, folio rotundo*; alſo, *Capparis folio acuto*; and Boccone, *Capparis Sicula, duplicatâ ſpinâ, folio acuto.* It grows naturally on old walls, and in rubbiſhy places, in Italy, and moſt of the ſouthern countries of Europe; alſo in the Eaſt.

Claſs and order in the Linnæan Syſtem. The characters.

Capparis is of the claſs and order *Polyandria Monogynia*; and the characters are,

1. CALYX is a coriaceous perianthium, divided into four oval, concave, gibbous parts.
2. COROLLA is four large, obtuſe, patent petals.
3. STAMINA are numerous, filiforme, patulous filaments, with oblong, verſatile antheræ.
4. PISTILLUM conſiſts of a pedicellated germen, without any ſtyle, but an obtuſe, ſeſſile ſtigma.
5. PERICARPIUM is a fleſhy, pedicellated berry, containing one cell.
6. SEMINA. The ſeeds are numerous, and kidney-ſhaped.

CHAP. XLI.

CAPRARIA, SWEET-WEED.

THERE are two ſpecies of this genus which are ſometimes ſought after to enlarge extenſive Collections, called,

Species.

1. *Capraria* of Curaçao.
2. *Capraria* of Jamaica, or Jamaica Sweetweed.

Capraria of Curaçao,

1. *Capraria* of Curaçao. The ſtalk of this plant is ligneous, angular, and grows to about two feet high. The leaves are ſhaped like thoſe of the upright Speedwell, are ſmooth, and grow alternately on the branches. The flowers are produced from the wings of the leaves in Auguſt, two only growing together; their colour is white, and they are ſometimes ſucceeded by ripe ſeeds in our gardens.

and Jamaica Sweet-weed deſcribed.

2. Jamaica Sweetweed. The ſtalks of this plant are erect, hexangular, and ſend forth branches alternately. The leaves are narrow, eared, ſerrated, and grow by threes round the branches. The flowers grow ſingly from the wings of the leaves, in Auguſt; and are ſucceeded by oblong, conical capſules, full of very ſmall ſeeds.

Culture.

The firſt ſort is propagated by cuttings, in the months of Auguſt or September. Theſe ſhould be ſet in pots, plunged into a bark bed, and be ſhaded and watered. In a little time they will ſtrike root, and ſoon become good plants.

But the beſt way to raiſe both the kinds is to ſow the ſeeds early in March, in a moderate hotbed. When the plants are three inches high, they ſhould be planted in pots filled with light, rich earth; and they muſt then be plunged up to the rims in a ſecond hotbed. Here they muſt be ſhaded and conſtantly watered, eſpecially the ſecond ſort, which in Jamaica grows in places that are frequently overflowed. When the heat of the ſecond bed is abated, you will do well to give them a third, which will cauſe them to flower earlier; and, the more effectually to enſure their ſeeds, they ſhould be removed into a glaſs-caſe, or be ſet in the Green-houſe, near the windows, where they may have all the advantages of the ſun and air, and be ſcreened only from wet weather, ſhould it happen.

Titles. Biflora. 1. *Capraria* of Curaçao is titled, *Capraria foliis alternis, floribus geminis.* In the *Hort. Cliff.* it is termed, *Capraria foliis alaternis, corollis quinquefidis.* Herman calls it, *Capraria Curaſſavica*; Commeline, *Gratiolæ affinis fruteſcens Americana, foliis agerati ſive veronicæ erectæ majoris*; and Plukenet, *Lyſimachiæ Peruvianæ affinis Americana procumbens, ononidis vernæ fruteſcentis, folio glabro.* It is a native of Curaçao.

Durantifolia. 2. *Capraria* of Jamaica is titled, *Capraria foliis ternis dentatis, floribus ſolitariis, ramis alternis.* Brown calls it, *Phælypea erecta, foliis ſeſſilibus anguſtis auritis ad apicem ſerratis oppoſitis ſive verticillatis, floribus ſingularibus alaribus*; and Sloane, *Veronica caule hexangulari, foliis ſaturejæ ternis ſerratis.* It is a native of Jamaica.

Claſs and order in the Linnæan Syſtem. The characters. *Capraria* is of the claſs and order *Didynamia Angioſpermia*; and the characters are,

1. CALYX is an oblong, monophyllous perianthium, divided into five narrow, erect, diſtant, permanent ſegments.

2. COROLLA is a ſingle bell-ſhaped petal, cut into five oblong ſegments, of which the two uppermoſt ones are more erect.

3. STAMINA. The filaments are four, awl-ſhaped, inſerted into the baſe of the corolla, and are ſhorter by half than the corolla. The two under ones are rather the ſhorteſt, and all of them have cordated antheræ.

4. PISTILLUM conſiſts of a conical germen, a filiforme ſtyle longer than the ſtamina, and an equal, bivalve, cordated ſtigma.

5. PERICARPIUM is an oblong, conical, bilocular capſule, compreſſed at the point.

6. SEMINA. The ſeeds are many, and roundiſh.

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CHAP. XLII.

CARTHAMUS, SHRUBBY BASTARD SAFFRON.

The plant deſcribed. THIS ſpecies riſes with a ſhrubby, branching ſtalk, to about eight or ten feet high. The leaves are ſword-ſhaped, long, ſinuated, indented, prickly, and embrace the ſtalk with their baſe. The flowers are yellow, and grow in large, ſcaly, prickly heads at the ends of the branches; they come out in July, but are never ſucceeded by good ſeeds in our gardens. The whole plant is very ſtrongly and diſagreeably ſcented.

Culture. It is propagated by planting the ſlips in pots filled with light, ſandy, freſh mould in the ſpring. The pots ſhould be then plunged up to the rims in a moderate hotbed, and the plants ſhaded and watered until they have taken root. From this time they muſt be hardened by degrees to the air; and when they are in a good growing ſtate, they may be removed from the bed, and plunged up to the rims in a ſhady part of the kitchen garden, but not under the drip of trees. Here they may remain until October or the beginning of November, when they ſhould be removed into the Green-houſe, with other hardy plants of that nature.

In the ſpring they ſhould be ſhifted into larger pots; and after they have been in the Green-houſe another winter, ſome of them may be turned out into the open air, in a warm well-ſheltered place, where they will bear the cold of our common winters; whilſt the others, remaining in the Green-houſe, will be not only ornamental to that place, but afford freſh ſlips for a ſucceſſion, in caſe thoſe that are ſet abroad ſhould be deſtroyed.

The ſlips will grow, if planted in pots in July or Auguſt, and then ſet in a ſhady part of the Green-houſe. When they have taken root they muſt be removed into the open air, plunging the pots up to the rims in a ſhady place, where they may remain until the time they are to be removed into the Green-houſe.

Titles. Arboreſcens. The Shrubby Baſtard Saffron is titled, *Carthamus foliis enſiformibus ſinuato-dentatis.* Vaillant calls it, *Carthamoides lutea altiſſima & fœtidiſſima*; and Tournefort, *Cnicus Hiſpanicus arboreſcens fœtidiſſimus.* It is a native of Spain.

CHAP. XLIII.

CASSINE.

Species.]

THERE are two ſpecies of this genus worthy of a place in the Green-houſe, called,

1. Cape *Phillyrea.*

2. Cape Cherry, *Maurocenia*, or Hottentot Cherry.

Deſcription of Cape Phillyrea

1. Cape *Phillyrea* is a beautiful Evergreen, and riſes with a woody, branching ſtem to eight or ten feet high. The leaves are oblong, ſerrated, of a dark-green colour, a thick ſubſtance, and grow on ſhort footſtalks on the branches. The flowers come out from the ſides of the branches in ſmall cluſters, are of a whitiſh colour, appear in July, and are ſucceeded by roundiſh berries, which are firſt greeniſh, but afterwards of a red colour in the autumn.

and Cape Cherry.

2. Cape Cherry, *Maurocenia*, or Hottentot Cherry, riſes with a woody, branching ſtem to ten or twelve feet high. The leaves are nearly oval, entire, rigid, evergreen, and grow on ſhort footſtalks on the branches. The flowers come out in ſmall cluſters from the wings of the leaves, are ſmall, of a whitiſh colour, appear in July, and are ſucceeded by large, roundiſh, red fruit, as big as a ſmall cherry, containing the ſeeds, which ſometimes ripen in the winter.

Culture.

Both theſe ſpecies are propagated by ſowing the ſeeds on a hotbed in the ſpring. When the plants are fit to remove, each ſhould have a ſeparate pot, which ſhould be again plunged into a ſecond hotbed. Here they muſt be watered and ſhaded until they have taken root, and be enured by degrees to the open air; and when this is effected, and the heat of the bed is abated, they ſhould be taken out and plunged up to the rims in a ſhady part of the garden. Here they may ſtand until the middle of September, when they ſhould be removed to a ſituation where they may receive the morning's ſun. The beginning of October they ſhould be ſet under a ſouth wall, where they may have the benefit of the ſun all day; and about the end of that month muſt be removed into the Green-houſe, and treated as other tender plants.

They are alſo increaſed by layers. This work ſhould be performed on the young ſhoots in the ſpring; and when they have ſtruck good root, they muſt be taken off, be potted ſeparately, and managed like the ſtronger ſeedlings.

Titles.

Peragua.

1. Cape *Phillyrea* is titled, *Caſſine foliis oblongis ſerratis.* Dillenius calls it, *Phillyrea Capenſis, folio celaſtri*; Burman, *Celaſtrus foliis ſubrotundis dentatis, flore ac fructu racemoſo*; and Seba, *Frutex Æthiopicus, alaterni foliis.* It grows naturally in Æthiopia.

Maurocenia.

2. Cape *Phillyrea*, *Maurocenia*, or Hottentot Cherry, is titled, *Caſſine foliis ſubovatis integerrimis.* In the *Hortus Cliffort.* it is termed, *Maurocenia.* Petiver calls it, *Cerasus Capenſis, fructu rubro, folio fere obtuſo*; Dillenius, *Frangula ſempervirens, folio rigido ſubrotundo*; and Plukenet, *Ceraſus Africana, foliis plerumque in ſummo ſinuatis, fructu rubro.* It inhabits Æthiopia.

Claſs and order in the Linnæan ſyſtem.

Caſſine is of the claſs and order *Pentandria Trigynia*; and the characters are,

The characters.

1. CALYX is a ſmall, obtuſe, permanent perianthium placed below the calyx, and divided into five parts.

2. COROLLA is divided into five ſuboval, obtuſe, ſpreading ſegments, which are larger than thoſe of the calyx.

3. STAMINA are five awl-ſhaped, patent filaments, with ſimple antheræ.

4. PISTILLUM conſiſts of a conical germen ſituated above the calyx, without any ſtyle, but three reflexed, obtuſe ſtigmas.

5. PERICARPIUM is a roundiſh, trilocular berry, umbilicated with the ſtigmas.

6. SEMINA. The ſeeds are ſingle, and nearly oval.

* * *

CHAP. XLIV.

CEANOTHUS, NEW-JERSEY *THEA.*

IN the Green-houſe muſt be ſtationed, African *Ceanothus.*

The plant deſcribed.

The ſtem is woody, rough, covered with a dark-coloured bark, grows to be ten feet high, and ſends forth ſeveral weak, purpliſh branches, which hang downward. The leaves are oval, ſpear-ſhaped, ſerrated, ſmooth, and of a ſhining-green colour. The flowers come out from the ſides of the branches in July, are ſmall, of a greeniſh colour, and are not ſucceeded by ſeeds in England.

Culture.

It is propagated by laying down the young ſhoots in pots filled with good, light earth, and placed commodiouſly for the purpoſe.

It is alſo raiſed by planting of the cuttings. Theſe ſhould be ſet, in the ſpring, in pots filled with rich, light earth; the pots muſt be then plunged up to the rims in the mould of a good hotbed, and the plants be conſtantly ſhaded and frequently watered until they have taken root. When this is effected, they muſt be enured by degrees to the open air; and when they are ſufficiently hardened, ſhould be ſet abroad in a ſhady, warm part of the garden. Here they may ſtand until

until the autumn, when they ſhould be removed into the houſe with myrtles, and other hardy Green-houſe plants. They muſt from time to time be ſhifted into larger pots, as their ſizes require it; and this, except watering at proper intervals, is all the trouble they will cauſe; for they are very hardy, and want only to be protected from froſts.

The beautiful, ſhining leaves of theſe plants make a pleaſing and ſtriking appearance in the Green-houſe in the winter-ſeaſon; and it is chiefly on their account that the ſpecies is coveted.

Titles.

Africanus.

African *Ceanothus* is titled, *Ceanothus foliis lanceolatis enerviis, ſtipulis ſubrotundis.* In the *Hortus Cliffort.* it is termed, *Celaſtrus inermis, foliis lanceolatis obtuſè ſerratis petiolatis appendiculatis.* Commeline calls it, *Alaternoides Africana, lauri ſerratæ folio.* It grows common in Æthiopia.

CHAP. XLV.

CELASTRUS, STAFF TREE.

Species.

THE more tender ſpecies of this genus are,
1. *Pyracantha*-leaved *Celaſtrus,* Æthiopian Boxthorn, or African Berberry.
2. Box-leaved *Celaſtrus.*
3. Myrtle-leaved *Celaſtrus.*

Pyracantha-leaved,

1. *Pyracantha*-leaved *Celaſtrus.* The ſtalks are woody, irregular, covered with a brown bark, ſend forth ſeveral taper branches from the ſides, and grow to about a yard or four feet high. The leaves are oval, ſpear-ſhaped, for the moſt part pointed, and of a ſhining-green colour; they come out without order from the ſides of the branches, and continue all the year. The flowers come out from the ſides of the branches in cymoſe bunches, are of a whitiſh-green colour, and are ſucceeded by beautiful, red, oval, three-cornered capſules containing the ſeeds.

Box-leaved,

2. Box-leaved *Celaſtrus.* The ſtalks are ſlender, weak, ligneous, aſh-coloured, jointed, branching; ſend forth ſeveral angular, whitiſh, jointed branches armed with long ſpines at the joints; and will riſe, if ſupported, to ten or twelve feet high. The leaves are like thoſe of the Narrow-leaved Box-tree, but longer, and come out in cluſters, without order, from the ſpines and ſides of the branches. The flowers grow from the wings of the branches in cymoſe bunches, are of a whitiſh-green colour, and are ſucceeded by oval, reddiſh capſules containing the ſeeds.

and Myrtle-leaved Celaſtrus deſcribed.

3. Myrtle-leaved *Celaſtrus.* The ſtalks are erect, woody, branching, and unarmed with ſpines. The leaves are broad, oval, ſerrated, and of a ſtrong green colour. The flowers come out in bunches from the ſides of the branches, near the top, are of a white colour, and ſucceeded by red capſules, like the former.

Culture.

All theſe plants are raiſed from the ſeeds, which frequently lie in the ground until the ſecond ſpring before they come up. They muſt, therefore, be ſown in pots ſoon after they are ripe; and if no plants come up in the ſpring, the pots muſt be ſet in a ſhady place during the ſummer, and in the winter following be ſtationed in a warm well-ſheltered ſituation. The ſpring after this the plants will come up in plenty, when they ſhould be kept clean from weeds, watered in dry weather, and, as the days get long, and the heat increaſes, be removed into a ſhady place. Here they may ſtand all ſummer, and in the autumn muſt be ſet in the Green-houſe. The ſpring following each plant ſhould be ſet in its own ſeparate pot, which ſhould be plunged up to the rim in a ſhady border, to keep the mould cool about the root. About the end of October they muſt be removed into the Green-houſe with other hardy plants, and the ſpring following be ſet abroad with them, and managed accordingly.

They are alſo propagated by cuttings. Theſe ſhould be planted, early in the ſummer, in pots, which ſhould be removed into a ſhady part of the Green-houſe, the windows being open. Here they will ſoon ſtrike root; and when once this is effected, they muſt be taken out, or they will ſoon grow yellow and draw weak. When taken out of the Green-houſe, they muſt be ſet up to the rims in a ſhady border; where they may remain until October, and be then removed into the houſe, and managed like the ſeedling plants.

They are alſo propagated by layers. If the young ſhoots of any of the kinds be laid in the mould in the ſpring, they will have ſtruck root by the autumn following; when they may be taken off, planted ſeparately in pots, and managed like the cuttings, and ſtrong ſeedling plants.

If a perſon has plenty of theſe plants, he may venture a few of them abroad in a warm well-ſheltered place, or he may train them up againſt a warm wall; where they will live through our common winters, if matted in froſts, and be very beautiful.

Titles.

Pyracanthus.

1. *Pyracantha*-leaved *Celaſtrus* is titled, *Celaſtrus ſpinis nudis, ramis teretibus, foliis acutis.* Commeline calls it, *Lycium Æthiopicum, pyracanthæ folio*; and Plukenet, *Euonymo affinis Æthiopica, lycii foliis & aculeis, fructu euonymi.* It reſides in Æthiopia.

Buxifolius.

2. Box-leaved *Celaſtrus* is, *Celaſtrus ſpinis folioſis, ramis angulatis, foliis obtuſis.* Plukenet calls it, *Lycium Portoricenſe, buxi foliis anguſtioribus.* It grows in Æthiopia.

Myrtifolius.

3. Myrtle-leaved *Celaſtrus* is, *Celaſtrus inermis, foliis ovatis ſerrulatis, floribus racemoſis, caule erecto.* Sloane calls it, *Myrtifolia arbor, foliis latis ſubrotundis, flore albo.* It grows naturally in Virginia and Jamaica.

CHAP. XLVI.

CERATONIA, The CAROB TREE, or St. JOHN's BREAD.

WE are at preſent acquainted only with one ſpecies of this genus, called, the Carob Tree, or St. John's Bread.

The plant deſcribed.

The ſtem is woody, thick, firm, divides into numerous ſpreading branches, and grows to be twenty or thirty feet high. The leaves are ever-green, long, and pinnated; the pinnæ being large, thick, firm, and of a duſky-green colour. The flowers are ſmall, of a purpliſh colour, and, in the countries where the tree naturally grows, are ſucceeded by large, eſculent, compreſſed pods, which are of a brown colour when ripe.

Culture.

This ſpecies is propagated by ſeeds, which may eaſily be procured from Italy and the ſouthern parts of Europe. They ſhould be ſown in the ſpring in pots on a hotbed; and when the plants are three inches high, they ſhould be planted ſeparately in other pots filled with light, rich earth. Theſe muſt be alſo plunged up to the rims in a hotbed, and the plants watered and ſhaded until they have taken root. When this is effected, they muſt be hardened by degrees to the open air, and then ſet abroad in ſome warm well-ſheltered place; where they may remain until the middle or end of October, as the weather happens, and be then taken into the Green-houſe, with other plants of the like nature. They muſt from time to time be ſhifted into larger pots, as often as they ſhall require it; have much free air, and but little water in winters; but muſt be regularly watered when they are ſet abroad in hot weather in ſummer.

When theſe trees are grown up they are tolerably hardy, will bear the cold of our common winters in the open air; and conſequently a ſhare of them may be ſet abroad in dry, warm, well-ſheltered places.

Siliqua.

Claſs and order in the Linnæan Syſtem. The characters.

Ceratonia is of the claſs and order *Polygamia Polyoecia*; and the characters are,

I. Males.

1. CALYX is a large perianthium divided into five parts.

2. COROLLA. There is none.

3. STAMINA are five very long, awl-ſhaped, patent filaments, with large, didymous antheræ.

II. Females.

1. CALYX is a perianthium divided by five tubercles.

2. COROLLA. There is none.

3. PISTILLUM conſiſts of a fleſhy germen within the receptacle, a long, filiforme ſtyle, and a capitated ſtigma.

4. PERICARPIUM is a large, obtuſe, compreſſed pod, divided by tranſverſe partitions, and full of ſweetiſh pulp.

5. SEMINA. The ſeeds are ſingle in each partition, roundiſh, compreſſed, hard, and gloſſy.

CHAP XLVII.

CHAMÆROPS, DWARF PALM, or PALMETTO.

THIS genus at preſent conſiſts only of one ſpecies, called, the Dwarf Palm, or Palmetto.

The plant deſcribed.

The root is ſpreading. The leaves are elevated on footſtalks like our common Fern, are flat on one ſide, convex on the other, and armed with ſpines. At firſt they are cloſed or ſhut up like a fan, and afterwards ſpread open, when they are ten, twelve, fourteen, and ſometimes ſixteen or eighteen inches long, and near a foot broad; they have many foldings like a fan, and are finely ſerrated on their edges. Among theſe ariſes the ſpadix for the ſupport of the flowers, which iſſue from a ſpatha: Theſe fall away without being ſucceeded by ripe ſeeds in England.

Culture.

This ſpecies is raiſed by ſowing the ſeeds in pots filled with light, ſandy earth, and plunging them up to the rims in a hotbed of tanner's bark. When the plants come up they muſt be ſlightly watered at intervals, have as much air as the weather will permit, and, when they are too cloſe, muſt be thinned, taking out the weakeſt plants. As they increaſe in ſtrength, they muſt be hardened to the open air, and in the autumn be taken into a good Green-houſe, where the warmeſt ſtation muſt be aſſigned them. The ſpring following they muſt be potted ſeparately, be plunged into a hotbed to forward their growth, and afterwards hardened to the open air; when they may be ſet abroad in ſome warm, well-ſheltered place, and in the autumn be taken into the Green-houſe as before. If there is the convenience of a ſtove, the ſeedlings are beſt preſerved there for a winter or two, until they get ſtrength.

It is alſo propagated by parting the heads from the main root, planting them in pots, and plunging them into a bark-bed, like the ſeedlings, when they are ſeparately potted. Theſe will readily grow; but they are always of inferior beauty to thoſe plants that have been raiſed from ſeeds.

Titles. Humilis

The Dwarf Palm is titled, *Chamærops frondibus palmatis plicatis, ſtipitibus ſpinoſis.* Caſpar Bauhine calls it, *Palma minor*; John Bauhine, *Palma humilis, ſ. Chamæriphes*; Dodonæus, *Chamæriphes*; and Pontedera, *Chamæriphes tricarpos ſpinoſa, folio flabelliformi.* It grows naturally in Spain and Portugal.

Claſs and order in the Linnæan Syſtem. The characters.

Chamærops is of the claſs and order *Polygamia Dioecia*; and the characters are,

I. Hermaphrodites.

1. Calyx. The general calyx is compreſſed and bifid; the ſpadix is branching; the perianthium is ſmall, and divided into three parts.

2. Corolla is divided into three oval, coriaceous, erect, acute parts, which are inflexed at the top.

3. Stamina are ſix awl-ſhaped, compreſſed filaments, which cohere at their baſe, and have linear, didymous antheræ, faſtened to their interior ſide.

4. Pistillum conſiſts of three roundiſh germens, and the like number of diſtinct, permanent ſtyles, with acute ſtigmas.

5. Pericarpium conſiſts of three globular, unilocular berries.

6. Semina. The ſeeds are ſingle, and globular.

II. Males.

Theſe are ſimilar to the hermaphrodites, except that the ſtamina are not diſtinct, and the germen is wanting.

CHAP. XLVIII

CHENOPODIUM, GOOSE-FOOT.

Species.

THERE is a beautiful ſpecies of this genus, called, The Ever-green Gooſe-Foot.

The plant deſcribed.

The ſtalks are ſhrubby, and divide into a few ſlender branches. The leaves are compoſed of numerous, narrow ſegments; they are beautifully divided, and continue green all the year; and it is from theſe that the plant derives its chief excellence. For the flowers are ſmall, and are adorned with no petals; they come out from the wings of the leaves, and ſit cloſe, having no footſtalks. Their uſual appearance is in July or Auguſt, but I have never known them ſucceeded by good ſeeds in our gardens.

Culture.

It is propagated by planting the ſlips, or cuttings, in the ſpring. Theſe ſhould be ſet in pots, plunged into a moderate degree of warmth, and ſhaded and watered until they have taken root. When they are in a growing ſtate, they muſt be hardened by degrees to the open air, and may be then removed to a ſhady ſituation for their ſummer reſidence: Watering muſt not be neglected to be given them in this ſtation; and in the autumn they muſt be removed into the Green-houſe, with other tender plants.

Titles. Multifidum

This ſpecies is titled, *Chenopodium foliis multifidis; ſegmentis linearibus, floribus axillaribus ſeſſilibus.* Dillenius calls it, *Chenopodium ſempervirens, foliis tenuiter laciniatis.* It is a native of Bonaria.

CHAP. XLIX.

CHIRONIA.

Species.

OF this genus are,
1. Shrubby Capſuliferous *Chironia.*
2. Shrubby Berry-bearing *Chironia.*

Shrubby Capſuliferous,

1. Shrubby Capſuliferous *Chironia.* The root is fibrous, and ſpreading. The ſtalks are woody, but ſoft, round, ſend forth ſeveral erect branches from the ſides, and grow to about three feet high. The leaves are narrow, ſucculent, obtuſe, and a little downy underneath. The flowers come out from the ends of the branches; they are large, of a bright-red colour, and have campanulated cups; they appear in June, and continue in ſucceſſion until October, by which time ripe ſeeds from the firſt blown flowers are ſometimes gathered. The ſeeds are ſmall, and are lodged in an inflated capſule. This is a very beautiful ſpecies, and worthy of a place in any collection.

Shrubby Berry-bearing Chironia deſcribed,

2. Shrubby Berry-bearing *Chironia.* The ſtalk is woody, round, jointed, branching, and three or four feet high. The leaves are narrow, ſucculent, thick, and ſhort. The flowers are produced from the ends of the branches; they are of a beautiful red colour, appear in June, and continue in ſucceſſion until the autumn, by which time ripe ſeeds from the firſt-blown flowers are ſometimes gathered. The ſeeds of this ſpecies are lodged in oval, pulpy berries.

This is a very beautiful plant, but the flowers are not ſo large as thoſe of the former.

Culture. They are propagated by ſowing the ſeeds, in the ſpring, in pots filled with light, ſandy earth. They muſt be then plunged into a pretty good hotbed of tanner's bark, otherwiſe there will be a chance of their not coming up, they frequently remaining inactive one year. When the plants make their appearance, the mould in the pots muſt be kept moiſt, with now and then ſprinkling with water; they muſt have as much air as the weather will permit, to prevent their drawing weak; and but very little water muſt be given them, as it will cauſe them to rot in that tender ſtate. When the plants are two or three inches high, they muſt be ſet ſeparately in very ſmall pots, filled with light, ſandy earth, be ſlightly watered, again plunged into the hotbed, and kept ſhaded until they have taken root. When that is effected, they muſt be hardened by degrees to the open air, and be then ſet abroad in ſome warm place, having a ſhelter to protect them from the rain, ſhould much happen; too much moiſture being deſtructive to theſe plants. In this ſituation they may remain until the autumn, and be then taken into the Green-houſe; or rather, if there be the conveniency, placed in an airy glaſs caſe; which habitation they reliſh better than the former, if it can be had. As the roots fill the pots, they muſt be ſhifted into larger; and about the ſecond year they will flower, and ſometimes in warm ſeaſons perfect their ſeeds.

1. The firſt ſpecies is titled, *Chironia fruticoſa, foliis linearibus ſubtomentoſis calycibus campanulatis.* Titles. Frutescens. In the former edition of the *Species Plantarum* it is termed, *Chironia fruteſcens capſulifera.* Commeline calls it, *Centaurium minus Africanum arboreſcens latifolium, flore ruberrimo*; and Burman, *Centaurium foliis binis oppoſitis anguſtis linearibus, flore magno rubente.* It grows naturally in Æthiopia.

2. The ſecond ſpecies is named, *Chironia fruteſcens baccifera.* Baccifera. Commeline calls it, *Centaurium minus arboreſcens pulpiferum*; and Oldenland *Centaurium minus Africanum arboreſcens anguſtifolium.* It grows naturally in Æthiopia.

CHAP. L.

CHRYSANTHEMUM, CORN-MARIGOLD.

THE tender ſpecies of this genus are uſually called,

Titles.
1. Canary Ox-Eye.
2. African Prickly Daiſy.

Canary Ox-Eye 1. Canary Ox-Eye. This is a branching ſhrub, about two feet high. The leaves are narrow, ſucculent, indented, and trifid at the extremity. The flowers are produced ſingly from the wings of the leaves on naked footſtalks; their colour is white, and they much reſemble thoſe of Camomile; they come out almoſt at all times of the year, and the ſeeds arrive at perfection in our gardens. There is a variety of this ſpecies, of lower growth, with ſulphur-coloured flowers.

and African Prickly Daiſy deſcribed. 2. African Prickly Daiſy. This is a branching ſhrub, about the ſame height as the former. The leaves are oblong, of a pale-green colour, ſit cloſe to the branches, are indented on their edges, and each ſegment is terminated by a ſoft ſpine. The flowers are produced from the wings of the leaves on ſhort footſtalks; they are round, even, and the florets, being all hermaphrodites, are deſtitute of rays; they are of a deep-yellow colour, come out in June, and continue in ſucceſſion until the end of November, or longer.

Culture. Theſe two ſorts are eaſily propagated by planting of the cuttings in pots filled with good, light earth, in any of the ſummer months; they then ſhould be plunged up to the rims in a ſhady part of the garden; and the plants muſt be duly watered, until they have taken root. When this is effected, they may be placed in the nurſery, for the conveniency of watering, with other ſmall plants of the like nature; or they may retain their ſituation until the end of October, when they ſhould be removed into the Green-houſe for their winter-lodgings.

1. Canary Ox-Eye is titled, *Chryſanthemum fruticoſum, foliis linearibus dentato-trifidis.* Titles. Frutescens Moriſon calls it, *Chamæmelum Canarienſe ceratophyllum fruticoſum*; Ray, *Bellis Canarienſis fruteſcens, foliis craſſis, pyrethri ſapore*; and Plukenet, *Buphthalmum Canarienſe leucanthemum, cotulæ fœtidæ craſſioribus foliis.* It grows naturally in the Canary Iſlands.

2. African Prickly Daiſy is titled, *Chryſanthemum floſculis omnibus uniformibus hermaphroditis.* Flosculosum. Haller calls it, *Tanacetum foliis integris rigidis dentatis, ſcapo unifloro*; Vaillant, *Balſamita foliis agerati*; Moriſon, *Bellis major ſpinoſa, petalis carens, ſeu nuda*; Caſpar Bauhine, *Bellis ſpinoſa, foliis agerati*; and Alpinus, *Bellis ſpinoſa.* It grows naturally in Africa and Crete.

CHAP. LI.

CHRYSOCOMA, GOLDYLOCKS.

THE tender ſpecies of this genus are of a ſhrubby nature, and are uſually called,

Species.

1. African *Linaria*-leaved Goldylocks.
2. Nodding African Goldylocks.
3. Ciliated African Goldylocks.
4. Rough-leaved African Goldylocks.
5. Marjoram-leaved African Goldylocks.

African Linaria-leaved,

1. African *Linaria*-leaved Goldylocks. This is a branching ſhrub, two feet and an half, or a yard high. The leaves are narrow, numerous, of a deep, pleaſant green colour; and a kind of membrane, or appendix, runs from the back of each leaf along the ſtalk. The flowers are produced from the ends of the branches, on long, ſlender, naked footſtalks; they are of a pale-yellow colour, come out early in the ſummer, and often continue in ſucceſſion until the end of autumn, before which time the ſeeds of the firſt-blown flowers will be fully ripe.

Nodding African,

2. Nodding African Goldylocks. This is a ſmall, ſhrubby, branching plant, about a foot and a half high. The leaves are ſhort, narrow, hairy, and recurved. The flowers, before they come fully out, nod on one ſide, when they are in full blow become more erect, and are of a pale-yellow, or ſulphur colour; they come out the greateſt part of the year, and ripe ſeeds may be gathered about the end of ſummer, or autumn.

Ciliated African,

3. Ciliated African Goldylocks. This is a low, branching, downy ſhrub, about half a foot high. The leaves are narrow, ſtraight, ciliated, and hoary. The flowers are produced from the upper parts of the branches, on naked footſtalks; they are of a yellow colour, and there is often a ſucceſſion of them for many months.

Rough-leaved African,

4. Rough-leaved African Goldylocks. This is a low, branching ſhrub, about the ſame height with the former. The leaves are very rough, ſpear-ſhaped, oval, ſerrated, and reflexed. The flowers are produced from the upper parts of the branches on downy footſtalks; they are of a golden-yellow colour, and come out great part of the ſummer.

and Marjoram-leaved African Goldylocks deſcribed.

5. Marjoram-leaved African Goldylocks. This is a ſhrub about two feet high. The leaves are nearly oval, and grow oppoſite to each other. The flowers are produced in bunches from the tops of the branches; they come out in the ſummer, and often continue to ſhew themſelves for a long time.

Culture.

All theſe plants are eaſily propagated by planting the cuttings in any of the ſummer months, in pots filled with good, light mould. The pots ſhould be then ſet in a ſhady part of the Green-houſe, and well watered; the windows of the Green-houſe ſhould be conſtantly open, and water muſt be afforded your young cuttings every other day, until they have taken root. When you find this effected, they muſt be brought out of the Green-houſe, and plunged up to the rims in a ſhady place; and here they may remain, with only watering them now and then in very dry weather, until the end of October, when they may be taken into the houſe with other hardy plants. Theſe plants will live abroad through ſome of our mildeſt winters, in warm well-ſheltered places; and this teaches us to afford them the cold part of the Green-houſe, for they only want to be protected from froſts.

Titles.

1. African *Linaria*-leaved Goldylocks is titled, *Chryſocoma fruticoſa, foliis linearibus rectis glabris.* Plukenet calls it, *Conyza Æthiopica, flore bullato aureo, pinaſtri brevioribus foliis læte viridibus*; and Volkamer, *Elichryſum Africanum multiflorum tenuifolium fruteſcens.* It grows naturally in Æthiopia.

Coma aurea.

2. Nodding African Goldylocks. This is titled, *Chryſocoma ſuffruticoſa, foliis linearibus recurvis ſubſcabris, floribus ante floreſcentiam cernuis.* Commeline calls it, *Coma aurea Africana fruticans, foliis linariæ anguſtis, major.* It is a native of Æthiopia.

Cernua.

3. Ciliated African Goldylocks is titled, *Chryſocoma ſuffruticoſa, foliis linearibus rectis ciliatis, ramis pubeſcentibus.* Commeline calls it, *Coma Africana fruticans, ericæ folio.* It is a native of Æthiopia.

Ciliata.

4. Rough-leaved African Goldylocks is titled, *Chryſocoma ſuffruticoſa, foliis lanceolato-ovatis recurvis denticulato-ſerratis, pedunculis pubeſcentibus.* In the *Hortus Cliffort.* it is termed, *Baccharis foliis ovato-lanceolatis ſerratis, caule ſuffruticoſo.* Dillenius calls it, *Conyza Africana tenuifolia ſubfruteſcens, flore aureo.* It is a native of Æthiopia.

Scabra.

5. Marjoram-leaved African Goldylocks is titled, *Chryſocoma fruticoſa, foliis oppoſitis obovatis, floribus faſciculatis pedunculatis.* Breynius calls it, *Cyanus arboreſcens minor, foliis marjoranæ.* It grows naturally at the Cape of Good Hope.

Oppositi-folia.

CHAP. LII.

CINERARIA.

Species.

THE more tender ſpecies of this genus are,
1. Amelloide *Cineraria.*
2. *Cineraria Othonnites,* or Shrubby African *Solidago.*
3. Flax-leaved *Cineraria.*
4. *Sonchus*-leaved Ragwort.
5. *Cymbalaria*-leaved *Aſter.*
6. Creeping African Ragwort.

Amelloide Cineraria deſcribed.

1. Amelloide *Cineraria.* The root is fibrous. The ſtalks are perennial, rough, jointed, divide from the bottom to the top into numerous ſpreading branches, and grow to about two or three feet high. The leaves are oval, rough, ſeſſile, of a thick ſubſtance, and grow oppoſite, by pairs, at the joints. The flowers come out ſingly from the upper parts of the branches on long, naked footſtalks; the rays are of a fine blue colour, but the diſk or middle is yellow; they appear in ſucceſſion the greateſt part of the year, but they exhibit their greateſt beauty from midſummer until the end of autumn; and they ripen their ſeeds, if protected from too much wet, very well in our gardens.

Cineraria Othonnites deſcribed.

2. *Cineraria Othonnites,* or Shrubby African *Solidago.* This plant riſes with a ligneous, branching ſtalk to the height of about three or four feet. The leaves are oblong, ſpear-ſhaped, of a thick ſubſtance, a little indented on their edges, and the footſtalks grow alternately. The flowers come out ſingly from the ends and ſides of the branches; they are of a yellow colour, appear in ſucceſſion great part of the ſummer, and are ſucceeded by ſmooth, narrow ſeeds, crowned by long down.

Flax-leaved Cineraria deſcribed.

3. Flax-leaved *Cineraria.* The ſtalks are tender, ligneous, and two or three feet high. The leaves are narrow, very much like thoſe of Flax, and come out without order all over the plant. The flowers are produced ſingly from the top of the plant on footſtalks; they are of a yellow colour, and continue to ſhew themſelves from about midſummer until the end of autumn.

Sonchus-leaved Ragwort deſcribed.

4. *Sonchus*-leaved Ragwort. The ſtalk is thick, upright, full of pith, and about a yard high. The leaves are large, ſmooth, ſinuated on their edges, and embrace the ſtalk with their baſe. The flowers come out from the ends and ſides of the ſtalks near the upper part; they are large, and of a fine purple colour; they appear in July and Auguſt, and ripen their ſeeds in the autumn.

Cymbalaria-leaved Aſter deſcribed.

5. *Cymbalaria*-leaved *Aſter.* The ſtalk is upright, herbaceous, and about a foot high. The lower leaves are lyrated, but the upper ones are lobed like thoſe of the Maple-tree, and embrace the ſtalk with their baſe. The flowers are produced ſingly from the tops of the ſtalks; they are of a yellow colour, appear in July and Auguſt, and ripen their ſeeds in the autumn.

Creeping African Ragwort deſcribed.

6. Creeping African Ragwort. The ſtalks are herbaceous, round, branching, hairy, weak, grow to be five or ſix feet long, and unleſs ſupported lie on the ground. The leaves are kidney-ſhaped, roundiſh, and many of them are lobed or indented in the manner of Ground Ivy. The flowers are produced from the ends of the branches in looſe umbels; the rays are of a fine pale-yellow, but the florets in the diſk are of a dark deep-yellow colour; they appear great part of the ſummer, and ſometimes all winter, and are ſucceeded by narrow quadrangular ſeeds, crowned with down.

Culture.

All theſe ſorts are beſt raiſed from ſeeds. But as in wet ſeaſons theſe do not always ripen, the beſt way will be to cover a ſufficient number of flowers with glaſſes, to keep them from the wet, the more effectually to procure good ſeeds in the autumn. The ſeeds ſhould be kept in a dry room until April, and ſhould then be ſown in the open ground in beds of rich, light, fine earth. In June, the plants will be of a proper ſize to remove, when they ſhould be taken up with a ball of earth to each root, and ſet in pots. The pots muſt be plunged up to the rims in a ſhady part of the kitchen garden, where they may remain until the end of October, and then be ſet in the Green-houſe, or under a hotbed frame, for their winter lodging.

They are alſo raiſed by ſlips, or cuttings. Theſe may be ſet in common mould, in any of the ſummer months; the beds ſhould be hooped, the plants covered with mats, and duly watered until they have taken root. When they are in a growing ſtate they ſhould be ſet in ſeparate pots, plunged up to the rims in a ſhady part of the garden, and in the end of October removed under ſhelter for their winter lodging. They require little water in winter, but in ſummer ſhould have plenty of it, and the flowers will be larger and better coloured. They are valuable for their long flowering, as many of them will continue the ſucceſſion from about midſummer until the end of autumn, and even in winter will not fail to adorn the Green-houſe with their finely radiated flowers at that ſeaſon, when, though leaſt expected, they are always moſt welcome.

Titles.

Amello-ides.

1. Amelloide *Cineraria* is titled, *Cineraria pedunculis unifloris, foliis oppoſitis ovatis, caule ſuffruticoſo.* Vaillant calls it, *Solidago Africana fruteſcens cærulea, hyperici foliis plerumque conjugatis*; Ray, *Aſter Africanus fruteſcens ramoſus, floribus cæruleis, foliis oppoſitis minimis, caulibus & ramulis in pedunculos nudos exeuntibus.* In Miller's Dictionary it is termed, *Aſter caule ramoſo ſcabro perenni, foliis ovatis ſeſſilibus, pedunculis nudis unifloris.* It is a native of the Cape of Good Hope.

Othonnites.

2. *Cineraria Othonnites,* or Shrubby African *Solidago* is titled, *Cineraria pedunculis unifloris, foliis oblongis indiviſis ſubdentatis petiolatis alternis nudis.* Vaillant calls it, *Solidago Afra fruteſcens, foliis craſſis dentatis.* It grows naturally in Africa.

Linifolia.

3. Flax-leaved *Cineraria* is titled, *Cineraria pedunculis unifloris, foliis ſparſis, caule fruticoſo.* It grows naturally at the Cape of Good Hope.

Sonchi-folia

4. *Sonchus*-leaved Ragwort is titled, *Cineraria foliis amplexicaulibus ſinuatis difformibus.* Breynius calls it, *Jacobæa ſonchi folio, flore purpureo amplo, Africana.* It is common at the Cape of Good Hope.

Cymbalari-folia.

5. *Cymbalaria*-leaved *Aſter* is titled, *Cineraria foliis lyratis: impari reniformi denticulato, caulinis ſummis amplexicaulibus lobatis integris.* Ray calls it, *Aſter flore luteo, folio cymbalariæ*; alſo, *Aſter Africanus minimus monanthos luteus, foliolis anguloſis minimis aceris formâ ſive cymbalariæ*; and

Vaillant, *Jacobæa Afra geranii columbini folio.* It grows naturally at the Cape of Good Hope.

Geifolia. 6. Creeping African Ragwort is titled, *Cineraria pedunculis ramoſis, foliis reniformibus ſuborbiculatis ſublobatis dentatis petiolatis.* In the *Hort. Cliff.* it is termed, *Solidago foliis reniformibus ſuborbiculatis dentatis.* Commeline calls it, *Jacobæa Africana, hederæ terreſtris folio, repens.* It grows naturally at the Cape of Good Hope.

CHAP. LIII.

CISTUS, ROCK ROSE.

WHEN the ſhrubby ſpecies of this genus are recommended for the Shrubbery, it is to be underſtood, that the ſoil muſt be naturally dry, and the ſituation well-defended; otherwiſe there will be little chance of many of the ſorts ſurviving a hard winter. This has occaſioned many, whoſe ſituation is cold, moiſt, and expoſed, to treat all, or moſt of the ſhrubby ſpecies, as Green-houſe plants. I agree with them in their conduct, and always chooſe to have a plant or two of the tendereſt kinds, let the ſituation be what it will, in the Green-houſe, to preſerve the ſorts, in caſe a ſevere winter ſhould put a period to thoſe whoſe habitation is in the open air.

To the ſorts already deſcribed, we will here add,

Cape Ciſtus deſcribed. The Cape *Ciſtus*, or Rock Roſe. This is a branching ſhrub, about four feet high. The leaves are oval, ſpear-ſhaped, trinervous, indented, and are placed on ſtrong, ſhort footſtalks. The flowers come out from the tops and ſides of the branches on ſlender footſtalks; they appear in July and Auguſt, but their ſhew in a hot day is ſoon over; there is a ſucceſſion of them, however, for a long time, but they ſeldom ripen their feeds in our gardens.

Culture. This ſort is raiſed like the other ſpecies already deſcribed. It is too tender to bear the cold of our winters, therefore muſt be removed into the Green-houſe in November, with other plants of the like conſtitution.

Title. Capensis. The Cape *Ciſtus* is titled, *Ciſtus arboreſcens, exſtipulatus, foliis ovato-lanceolatis petiolatis trinerviis denticulatis utrinque nudis.* It grows naturally at the Cape of Good Hope.

CHAP. LIV.

CITRUS, The CITRON-TREE.

THE three celebrated fruits of this genus are,

Species.
1. The Orange.
2. The Lemon.
3. The Citron.

Old authors have treated of theſe ſpecies as diſtinct genera; but their characters all agree, and ſpecific differences only are to be found between them. Nay, ſo great an affinity is there between the Citron and the Lemon, that they are with good reaſon adjudged to be varieties only of one ſort.

In our orchards we find a multitude of kinds of the Apple, the Pear, the Plum, &c. Nature has been wonderfully bountiful in the profuſion of the valuable ſorts ſhe has beſtowed upon us for uſe. Each of theſe ſeveral tribes, however, has its own particular title, which comprehends all its varieties, for there is ſtrictly but one Apple; ſo it is with the Orange, the Lemon, &c. In the countries where they naturally grow, and in ſuch climates as ſuit their natures, they are cultivated in amazing plenty; and are found growing for uſe, as apple trees, &c. are in our gardens. There they are often raiſed from kernels, without any other art to bring them to perfection than what Nature beſtows them. It is no wonder then that there is found as great a variety of theſe ſorts of fruits, as there is among thoſe in our fruit-gardens. When a valuable ſort is obtained from the ſeeds in that manner, it is propagated with great ſedulity by the curious, or thoſe who make a trade of the profeſſion; as we are eager after a new ſort that is valuable, to add to our catalogue of fruits. From theſe we receive new ſorts, though we have nothing like the variety of ſorts that is to be found in foreign countries; neither is it at all neceſſary, as they will not bear our winter air, and great art and trouble muſt be uſed to bring them to tolerable perfection. A few of the principal varieties of each ſort may be ſufficient for our purpoſe, and aſſuage our thirſt after curioſities of this nature.

The principal ſorts of Oranges which we have in our Green-houſes are,

Principal ſorts.
1. The Common Seville Orange.
2. The China Orange.
3. The Large Indian Sweet Orange.

4. The Smaller Indian Orange.
5. The Turkey Orange.
6. The Pumpelmoes, or Shaddock.
7. The Nutmeg Orange.
8. The Horned Orange.
9. The Hermaphrodite Orange.
10 The Double-flowered Orange.
11. The Curled-leaved Orange.
12. The Silver-ſtriped-leaved Orange.
13. The Gold-ſtriped-leaved Orange.

Sorts de-ſcribed.

1. The Common Seville Orange is the hardieſt of all the ſorts, grows to be the handſomeſt tree, and ought to be the moſt cultivated in our gardens. 2. The China Orange is tender, liable to caſt its fruit with us, and when managed with the utmoſt art, ſo as to be brought to the greateſt perfection our climate will admit of, is at beſt but a very bad fruit, and vaſtly inferior to the worſt of thoſe we receive from abroad. 3, 4. The Indian Sweet Oranges are ſtill more tender, and a few plants of each ſort may be ſufficient for curioſity. 5. The Turkey cauſes variety by its long, narrow leaves; 6. The Pumpelmoes, or Shaddock, by its large fruit; 7. The Nutmeg, as being a dwarf, and producing its leaves and flowers in cluſters; 8. The Horned Orange from the ſingularity of its fruit, it dividing into parts, and the rind expanding in the manner of horns. 9, 10, 11, 12, 13. Theſe are remarkable, with reſpect to their flowers and leaves, by the properties their names indicate.

A few of all theſe ſorts ſhould be had to enrich a collection; though the Seville Orange is the chief ſort to be depended upon for a fair ſhow of healthy trees and good fruit. Their ſtation muſt be in the hardieſt part of the Green-houſe, whilſt the others muſt occupy the warmeſt places. When any one is wanted for a room in the houſe, the Nutmeg Orange is beſt for the purpoſe, not only on account of its being a dwarf, and the leaves and flowers being produced in a beautiful manner, but alſo becauſe they are finely ſcented; inſomuch that you will be continually regaled by theſe agreeable ſweets, which are continually emitted from their fragrant flowers.

Theſe being the principal ſorts of Oranges, let us proceed to the different kinds of

2. The Lemon. This plant, like the Orange, nay Apple, Pear, &c. may be multiplied without end, by ſowing of the ſeeds; and in the hot parts of the world the multitude of ſorts is amazingly great. In our gardens the principal kinds at preſent are,

The Common Sour Lemon.
The Sweet Lemon.
The Sour Lemon, called the Lime.
The Sweet Lime.
The Indian Sour Lemon.
The Indian Sweet Lemon.
The Imperial Lemon.
The Pear-ſhaped Lemon.
The Lemon called Adam's Apple.
The Furrowed Lemon.
The Childing Lemon.
The Cluſtered Lemon.
The Double flowered Lemon.
The Silver ſtriped-leaved Lemon.
The Gold-ſtriped-leaved Lemon.

Theſe are the principal kinds of Lemons we are at preſent poſſeſſed of. The common ſour ſorts are ſuperior to all the others; the ſweet kinds are little eſteemed; and the ſingularities peculiar to the other different ſorts force them under our protection on that account, though in general their fruit is ſmall, and the juice they afford is very little.

3. The Citron. Theſe plants are further varieties of the Lemon; or rather, the Lemons are varieties of the Citron. The fruit of the Citron-tree is chiefly uſed for ſweetmeats; and is made to anſwer ſeveral culinary purpoſes, as well as to enrich the deſert on the table at ſuch ſeaſons of the year when moſt fruit is ſcarce and of little value.

Citron deſcribed.

Formerly it was uſed for the cure of ſtinking breath. The Parthians, among whom this tree flouriſhed in great perfection, being remarkable for that diſorder, found great benefit by chewing the ſeeds, the flowers, and the rind of this fruit.

It was alſo held to be a ſovereign remedy againſt poiſon, and to effectually expel all venom contracted from the bite of the moſt deadly ſerpents.

The accounts which writers in former ages have given us of the virtues of this fruit are very wonderful; and the utmoſt admiration is excited from the relation of their well-atteſted ſtories.

Virgil beautifully deſcribes this tree and its virtues in the following lines:

Media fert triſtes ſuccos tardumque ſaporem
Felicis mali: quo non præſentius ullum
(Pocula ſi quando ſævæ infecere novercæ,
Miſcueruntque herbas, et non innoxia verba)
Auxilium venit, ac membris agit atra venena.
Ipſa ingens arbos, faciemque ſimillima lauro:
Et, ſi non alium late jactaret odorem,
Laurus erat: folia haud ullis labentia ventis:
Flos apprima tenax: animas et olentia Medi.
Ora fovent illo, et ſenibus medicantur anhelis.
VIRG. Geor. 2.

Sharp-taſted Citrons Median climes produce;
Bitter the rind, but generous is the juice:
A cordial fruit, a preſent antidote
Againſt the direful ſtepdame's deadly draught:
Who, mixing wicked weeds with words impure,
The fate of envy'd orphans would procure.
Large is the plant, and like a laurel grows,
And did it not a diff'rent ſcent diſcloſe
A laurel were: the fragrant flow'rs contemn
The ſtormy winds, tenacious of their ſtem.
With this the Medes, to lab'ring age, bequeath
New lungs, and cure the ſourneſs of the breath.
DRYDEN.

The principal ſorts are,
The Common Citron.
The Sweet Citron.

From theſe, numbers of varieties, like the Orange and Lemon, may be obtained from ſeeds; but this being a leſs uſeful fruit, renders the thirſt after the increaſe of the ſorts more unneceſſary; eſpecially as the common ſorts are highly valuable in their kinds, and can hardly be ſuppoſed to be out-done by any caſual varieties of that nature. Their fruit is large, noble, and they have a fine appearance when ripe. The plants are of a more tender nature than either the Lemons or Oranges, and require a warmer ſituation to bring their fruit to perfection; and indeed, except the differences of ſituation, with reſpect to the degree of warmth in the houſe, one common culture very nearly belongs to the Orange, the Lemon, and the Citron; which is as follows.

Culture.

Culture of the ORANGE, the LEMON, and the CITRON TREE.

Our Green-houſes are furniſhed with trees of theſe kinds, either from ſtocks raiſed from ſeeds, properly budded, and trained up in our own nurſeries; or with large trees already raiſed to our hands abroad, which are every year imported in large quantities from diſtant countries, and may be purchaſed at no very conſiderable rate.

This laſt method is the more eligible practice, as in a few years our Green-houſes may be well ſtored with a good ſtock of the different kinds of theſe trees; whereas, the method of raiſing them from ſeeds is very tedious, and plants can rarely be brought to any conſiderable degree of perfection under a dozen, fifteen, or even twenty years, which is a conſiderable part of a man's life.

Both methods, however, ſhall be given to the Publick; and as I prefer the eaſy and expeditious way of purchaſing trees that are annually imported for ſale, I ſhall begin with them firſt, and direct their management, from the time of our firſt receiving them, until they glow in their full pride, loaden with their ſilvery flowers and golden fruit.

Of Orange Trees, &c. imported from abroad.

Theſe are uſually brought over in very bad condition, deſtitute of leaves; the ſtocks of many are ill choſen; the buds can hardly be ſaid to have taken, or to be joined to the main ſtem; and the roots are frequently ſo mangled with taking up, ſo dried with the carriage, and the colour of the bark ſo much impaired, that they appear like ſo many uſeleſs ſticks, fit only for the fire, and from which the Orange, the Lemon, &c. can hardly ever be ſuppoſed to grow.

From the very worſt of theſe, with careful management, good trees may be expected; but as there is frequently a large mixture of good and bad trees blended together, and as by a judicious choice of the moſt promiſing ſorts, our collection will be more perfect, and the period of its being ſo nearer at hand, I propoſe, firſt of all, giving ſome rules to direct us in the choice of our trees, on their firſt arrival in the warehouſes.

Rules for chuſing trees imported from abroad.

1. See that the ſtem be ſtraight, and of a good length. This will atone for ſeveral other deficiencies; for with careful management, ſuch may be brought to be good, handſome trees, if faulty at firſt in their roots or otherways; whereas, if a tree is ever ſo perfect in other reſpects, if the ſtem be ſhort, knotted, and crooked, ſuch an one never can be ranked among the beautiful trees of theſe ſorts, and muſt come in as an underling only to the ſtill more noble and finer looking trees.

2. Obſerve that there be two buds at leaſt to each tree; by this means the head will be ſooner formed, and the ſtem will ſhew its well ſpreading branches, glowing with fruit ſooner, by ſeveral years, than if one bud alone, at firſt, had appeared on it.

3. See that the ſhoots be ſhort and compact, of a thickneſs proportional to their length, and not long and rambling; for theſe indicate the Shaddock, and other inferior ſorts of theſe trees.

4. Take notice, that the bark be plump, tender, and of a good colour; the oppoſite properties to thoſe which have ſuffered by the careleſſneſs of the managers, and the length of the voyage.

5. With reſpect to the roots, they ſhould be as firm and ſound as poſſible, of which there will be little danger, if the plants have been taken up, well packed, and ſent over with care.

Plants with theſe properties will ſoon make good trees; but with reſpect to the ſorts, the particular kinds are rarely to be depended upon; ſo that whenever a perſon is curious this way, and is deſirous of having as great variety of them as poſſible, he ſhould employ ſome friend abroad to ſend him over the ſorts he wants, otherwiſe it is great odds but he will be diſappointed; for Shaddocks, Citrons, &c. being the largeſt growing ſorts, they are more generally cultivated by the Italians for exportation; and ſometimes it happens, that out of a large cargo very few other ſorts are to be found among them.

Culture of Orange-Trees imported.

Having thus purchaſed your trees, prepare with all expedition for their being planted. They muſt be aſſiſted in their vegetation, at firſt, by a warm hotbed; for which purpoſe a good tan-bed ſhould be prepared. This ſhould be in length in proportion to the number of trees it is to hold, and its depth ſhould be four feet, as the pots the bark is to receive will be large and deep; it ſhould be ſunk three feet into the common mould, ſhould be bricked at bottom and all round, and the ſide-walls ſhould be raiſed a foot above the level of the ground; which being done, earth ſhould be brought to raiſe the ground a foot high to the top of the wall, and the pit ſhould be immediately filled, in the uſual way, with tanner's bark.

The trees ſhould be ſet in large pots, in proportion to their ſize; but before they are planted, the dried veſſels ſhould be diſtended as much as may be, by placing them in tubs filled with ſoft water half their length, and letting them there remain fully expoſed to the ſun about two days. Having remained in that ſituation about forty-eight hours, they ſhould be taken up, and the ſtems ſhould be well cleaned: This ſhould be done by a ſpunge, dipped in the water wherein they were placed; and after they are well cleaned and waſhed, they ſhould be dried with a flannel cloth. The next thing to be done is to trim the roots, by cutting off the ends, and all dead, decayed, and bruiſed parts; and alſo to prune the heads, leaving the ſhoots only about three inches long, cutting entirely out all the bruiſed, broken, and dead wood, &c.

Theſe things being effected, the trees ſhould be ſet in the pots with all expedition. The beſt compoſt for them is a rich, freſh, light mould, taken from a good paſture with the ſward twelve months before, and about a fourth part of cows-dung at the ſame time. If a proper quantity of this be laid in ſmall heaps a year before, and frequently turned, it will be well rotted, the parts will be incorporated; and it will conſtitute the beſt compoſt yet known, for any of the Orange or Lemon tribe.

With regard to the pots, they ſhould be big enough to hold the roots free and eaſy without bending them, but not larger; for it is found by experience, that theſe trees do not grow ſo readily in large pots, as they do in thoſe only that will but juſt contain their roots; ſo that if a ſtraggling root ſhould happen to ſhoot a great length, the beſt way will be to reduce it, rather than let the tree have a very large pot to afford room for it.

Having a ſufficient quantity of proper ſized pots in readineſs, let the bottom be covered with ſlates, or oyſter-ſhells, for the wet to drain off; then put in the mould, and plant a tree in each of the pots, ſettling the earth well to the roots. This being done, give them a pretty good watering, and immediately plunge the pots up to the rims in the bark-bed.

Before the juices are in motion, the bark will ſtill ſuffer greatly from the ſun and air, if not guarded againſt; on which account, ſome haybands ſhould be ſlightly twiſted round the ſtem; and this will effectually ſecure them from accidents of that nature. The next day give them a good watering; and repeat this at different times, watering them all over the ſtem and branches; but let the intervals be regulated as you find it neceſſary, and do not give them too great quantity at a time; for over-watering is very prejudicial, if not entirely deſtructive to theſe trees. Keep the glaſſes conſtantly ſhaded, until they have taken good root; and when you find the juices are in full motion, and the tree is in a growing ſtate, the hay-bands ſhould be taken away from the ſtems. In a very little time they will ſhoot vigorouſly; then plenty of air muſt be granted them, and the ſhoots muſt be ſhortened to about three inches in length, to cauſe them to multiply in branches, and form good heads.

From time to time water the trees all over their tops and ſtems, as well as roots, and harden them by degrees to bear the open air; and about the middle of July ſet them abroad in a warm, well-ſheltered, ſhady place: Here they may ſtand with watering at times, as the weather makes it neceſſary, until the laſt week in September, when they ſhould be removed into the Green-houſe, and placed without order near the windows and doors; and when the hardier plants are brought into the houſe, at the end of October, they ſhould then take their places for the winter, ranging them according to the laws given for the diſpoſition of Green-houſe plants.

During winter water them frequently, but let them have it in ſmall quantities at a time; and in the ſpring take away the upper mould of the pots down to the tops of the roots, and let freſh mould be added; waſh the ſtems with a ſpunge, dry them with a cloth, and pick off all decayed leaves from the branches; and when the hardier plants are taken out of the houſe, ſet them at a greater diſtance from each other, that they may be more at liberty to enjoy the benefits of the ſun and air; give them more water as the days get warmer; and about the end of May ſet them abroad again, in their former well-ſheltered, warm, ſhady place.

All ſummer water them with ſoft water, as often as the weather makes it neceſſary; and about the laſt week in September, or firſt of October, as you find the weather can be truſted, remove them into the Green-houſe as before.

Every ſpring and autumn the upper earth in the pots muſt be taken away, and freſh earth added; and every other year the plants ſhould be ſhifted into larger pots, filled with the like kind of rich, freſh, light mould. This will call for a ſupply of ſuch mould conſtantly to be kept up, that it may be ever ready, and in a good condition for uſe.

In removing the trees, cut off all mouldy, damaged fibres, or larger roots, that have ſuffered from the ſides of the pot; pare away the earth round the root, and pick as much of the old earth out of the ball as you ſafely can without totally diſlodging the root from its ball, that is to continue it ſtill in its growing ſtate; for thereby more freſh earth will be added, for the better nouriſhment of the tree afterwards. Clean the ſtems well with a wet ſpunge, and dry them with a flannel; then having your pots in readineſs, with proper oyſter-ſhells to drain off the moiſture at the bottom, put firſt of all as much earth into the pots as you find neceſſary to raiſe your roots to a proper height, then ſet the trees exactly in the middle of each pot in an upright poſition, preſs the mould down well on all ſides, and immediately give them a good ſoak of water.

The beſt time for this work is the laſt week in April; for by doing it at that ſeaſon, the roots will have ſtruck into the freſh mould, and the trees will be in a more than common flouriſhing ſtate before they are removed out of the houſe the end of May; which they will keep up, and maintain in its full vigour all ſummer.

As they increaſe in ſize, and get too large for pots, they muſt be ſet in tubs. The removal is exactly the ſame; and the pruning they will require from time to time is, to take out the weakeſt ſhoots when they appear too numerous, and croud each other; and alſo to ſhorten the ſhoots, when the heads appear too thin to cauſe them to throw out lateral branches to fill them; and by the due obſervance of theſe rules, the heads will always be kept regular, and will be the moſt perfect the tree is capable of exhibiting, both with reſpect to the beauty of the appearance, and the diſpoſition for bearing flowers and fruit.

Of Raiſing the ORANGE, the LEMON, and the CITRON-TREE from Seeds.

Culture of Orange, &c. Trees from Seeds.

All theſe ſorts will readily take by budding or grafting one on another; ſo that, in order to raiſe all the varieties peculiar to all the ſorts, one ſort of ſeed only need be ſown to raiſe ſtocks for the purpoſe: But as ſome ſorts ſhoot more freely than others, the ſeeds ſhould be choſen from ſuch ſorts as grow the largeſt, and ſhoot in the freeſt and kindeſt manner.

Seville Orange ſtocks are very proper to receive the buds of all the ſorts, but are inferior to thoſe of the Citron, which grow faſter, and whoſe bark ſeparates more freely under the operation of inoculation, than that of the Orange uſually does. Citron-ſeeds, however, for raiſing many ſtocks, are not always eaſily procured; but the ſeeds of Seville Oranges may at any time be obtained in any deſired quantity; on which account we will ſuppoſe the generality of our ſtocks will be raiſed from thoſe kinds of ſeeds.

The beginning of March is the beſt time for ſowing the ſeeds. This ſhould be done in pots filled with the like kind of rich, freſh, light earth as is prepared for the other trees. The pots ſhould be immediately plunged up to the rims in a bark hotbed; but for want of ſuch an one, a good dung hotbed ſhould be in readineſs, covered with five inches depth of common mould, and the pots muſt be plunged up to the rims in the mould. The next day give them a ſmall ſprinkling of water, and repeat this every third day; but be ſure let it be in a ſmall quantity at a time. Raiſe the glaſſes to let out the ſteam, and admit the free air; in about a month your plants will come up ſtrong, and of a good colour.

In order to continue this, give them as much air as you can with ſafety, conſtantly ſupplying them with water; and by the beginning of May they will be of a proper ſize to be tranſplanted. For this purpoſe, let a ſufficient number of ſmall pots be in readineſs, and let all the plants, except one, which muſt be the ſtrongeſt, be taken out of the other pots; raiſe them with a trowel ſo carefully that not a fibre may be broken; and let good heed be taken, that the root of the ſtrongeſt plant that is to remain in each pot, may not be diſturbed.

Let all the drawn plants be ſet each in a ſeparate ſmall pot, and let them be plunged up to the rims in the mould laid on a ſecond hotbed prepared for the purpoſe. The pots alſo, in which the growing plants remain, ſhould be plunged in the ſame manner, if the firſt hotbed be of dung; but if of tanners bark, the heat will not be exhauſted, and they may retain their old ſituation, renewing the bed only with freſh bark, as you find it neceſſary. Immediately upon the removal of any of them, let them be well-watered, and the glaſſes ſhaded, until the plants have taken root; afterwards, when the ſun ſhines hot upon them, give them air ſufficient to prevent their being drawn up weak, and bad coloured; never be ſparing of water, for you cannot well over-water young Orange plants, while they are in this ſtate. By the beginning of July, you ſhould begin to harden them to the open air, by firſt raiſing the glaſſes higher than uſual, and afterwards continuing theſe freedoms until they are taken quite off. In evenings they may be placed on again; and in violent ſun-ſhine the plants ſhould be ſhaded with mats. With this management they may remain all ſummer; and about the laſt week in September they ſhould be removed into the Green-houſe, and ſtationed in the warmeſt place all winter. Frequently give them water; and if you find they contract any mouldineſs in any part, which they are liable to do, wipe it off with a flannel, and remove ſuch plants to a more airy ſituation, placing them near the windows, or the like. In the ſpring, their ſtems and branches muſt be waſhed with a ſpunge, dried with a flannel, and the pots muſt then be plunged into a moderate hotbed, to cauſe them to re-aſſume their growing ſtate with vigour, and prepare the bark to ſeparate freely to receive the bud. As the days increaſe in length, the glaſſes muſt be proportionally raiſed higher, plenty of water muſt be given the plants, and by the beginning of June the glaſſes may be entirely taken off. Shading the plants in the heat of the day, all ſummer, will be neceſſary; watering muſt not be omitted; and in Auguſt they will be in right order to receive the buds. Theſe ſhould be taken from the ſtrongeſt ſhoots of the healthieſt plants; and as ſoon as they are budded, it would be neceſſary to ſet them under a ſhed, where they may be protected from the wet, and ſhaded. Here they may ſtand about a month, when they ſhould be removed into the Green-houſe, at this time unlooſing the bands of all thoſe buds that have taken, and ſetting apart ſuch plants as the buds have failed in, for another operation the ſucceeding year.

Let them ſtand all winter in the Green houſe, with the uſual care. In the ſpring head the ſtocks about three inches above each bud; then plunge the pots into a moderate hotbed, to cauſe the buds to ſprout; ſhade them from the heat of the ſun, water them conſtantly, raiſe the glaſſes more and more, as the ſummer advances, and by the end of June take them entirely off. Still continue to ſhade them in the day time, all ſummer; and about the laſt week in September, ſet them in the Green-houſe, in the very warmeſt part of it; for the young ſhoots, and indeed the whole plants, will be very tender after ſo much forcing, and ought to be treated accordingly. The buds of moſt of them will probably have ſhot two feet long the firſt ſummer; but if you chooſe to have them taller ſtandards, it would be proper to plunge the pots into another hotbed the ſucceeding ſpring, for that will cauſe them to aſpire with more rapidity to any deſired height. When the trees are arrived at the height you could wiſh the ſtems to be, ſtop the leading ſhoots, and it will cauſe them to throw out ſide-branches, which muſt alſo be ſhortened at times, like thoſe of the trees from abroad, to cauſe them to multiply in branches, and form to the trees the moſt beautiful heads.

The ſorts ſhould be all numbered and booked; that you may know what kinds you are raiſing. Station them in their places in the Green-houſe, according as they are more or leſs tender; and as they increaſe in ſize, they will require to be ſhifted at proper intervals into larger pots, and finally into tubs, like the imported kinds.

Of Old Neglected ORANGE-TREES; their Management, and Improvement.

Management, &c. of old neglected Orange-trees.

It often happens in a ſeries of years, either through the taſte of the owner wearing off, the careleſſneſs of gardeners, or the death of the proprietor, that the Orange trees have been ſo much neglected, that their heads have grown entirely out of order; one part of the tree being deſtitute of branches, another decaying, and another altogether unpromiſing and unſightly. Trees in this ſtate are an eye-ſore or blemiſh to a collection; and therefore either ought to be removed, or to have ſome art beſtowed on them to cauſe them to reſume their former beauty.

In the ſpring of the year, therefore, let a bark-bed be prepared, as for the imported trees; reduce their heads, waſh and clean the ſtems, and take them out of the pots, paring away all the outward mould, and ſuch other alſo as may be taken off without entirely diſlocating the root. Cut out all mouldy roots or fibres, plant them afreſh in pots filled with the like kind of rich, light mould, and manage them as trees imported from abroad. Thus they will ſoon form freſh heads, and become as beautiful and ſpreading as they were at firſt.

When trees of this kind happen to be in tubs, and are too large to be ſet in pots; as the tubs will be greatly damaged, if not entirely rotted, by being plunged into the bark-bed, it is a good cuſtom to have large baſkets prepared for their reception. In theſe ſuch large trees are ſet, the ſame as in pots, and the baſkets are plunged into the hotbed. In July, when the trees have made their good ſhoots, they may be ſet in the tubs, with the baſkets at the roots, filling up the vacancies all around. Thus will the mould be preſerved in its regular poſition by the baſkets, which will ſoon afterwards rot, and be of no detriment to the growing plants.

Of ORANGES, LEMONS, and CITRONS, in ſtill greater Perfection than they are ordinarily obtained from the GREEN-HOUSE.

This practice chiefly reſpects thoſe trees which, together with their fruit, are brought forward by the aſſiſtance of hot-walls. The wall ſhould front the ſouth; the fire-places ſhould be built according to its length; and flues ſhould run the whole length, to warm the air as often as there ſhall be occaſion. The trees ſhould be planted in the border, to be trained up againſt the wall, or they may be planted at a ſmall diſtance, to grow as ſtandards; and there ſhould be glaſs-frames or covers in the front, to anſwer the purpoſe of the Green-houſe. By lighting the fires in the winter, and drawing mats over the glaſſes, the trees will be protected through the ſevereſt weather; and the fruit will be large, perfectly ripe, and as well taſted as any of thoſe we receive from abroad.

Accordingly, the Sweet Oranges ſhould be raiſed in this manner. The Citron alſo, as it rarely ripens in the common Green-houſe, ſhould be ſtationed here; and you may expect to ſee the fruit as large and well ripened as can be deſired.

There are ſome who plant Orange-trees in the full ground, and erect covers to put on or off, as there ſhall be occaſion. Theſe covers are always put together the beginning of October: The trees meet with protection all winter, and in May they are taken away.

Thus the trees appear all ſummer, as if growing in common with other ſorts, laden with fruit; which cauſes an equally unexpected and delightful appearance.

Trees thus ſtationed will grow to a very large ſize, and produce fruit in amazing plenty; but as their covering is at beſt ſlight, unleſs the ſtricteſt guard attend them in very hard froſts, there will be great danger of loſing them.

Titles.

Aurantium.

1. The Orange is titled, *Citrus petiolis alatis.* Cammerarius calls it, *Aurantia mala*; and Caſpar Bauhine, *Malus aurantia major.* The other varieties of it are titled according to their properties; ſuch as, *Malus aurantia, cortice eduli*; *Malus aurantia, fructu rotundo maximo palleſcente caput humanum excedente*; *Aurantium anguſto ſalicis folio dictum*; *Pumpelmus, &c. &c.* It grows naturally in India.

Medica.

2, 3. Lemon and Citron. One common title belongs to theſe, for they are only varieties of one ſpecies. The title is, *Citrus petiolis linearibus.* Old authors call the Citron, *Malus Medica*; *Malum citreum vulgare, &c.* and the Lemon, *Malus limonia acida*; *Limon vulgaris*; and the like. They grow naturally in Media, Aſſyria, Perſia, &c.

Claſs and order in the Linnæan Syſtem. The characters.

Citrus is of the claſs and order *Polyadelphia Icoſandria*; and the characters are,

1. CALYX is a very ſmall, monophyllous, withering perianthium, plane at the baſe, and indented in five parts at the top.

2. COROLLA is five oblong, plane, patent petals.

3. STAMINA. The filaments are uſually about twenty, are awl-ſhaped, compreſſed, erect, placed in a circular manner, and are frequently joined at the baſe into ſeveral ſmall, ſeparate bodies. The antheræ are oblong.

4. PISTILLUM conſiſts of a roundiſh germen, a cylindrical ſtyle the length of the ſtamina, and a globular ſtigma, having within nine partitions.

5. PERICARPIUM is a pulpy berry of nine cells, having a thick, fleſhy rind.

6. SEMINA. The ſeeds are two in each of the cells, are callous, and nearly of an oval figure.

CHAP. LV.

CLIFFORTIA.

Species.

THIS genus conſiſts of four ſpecies, called,
1. *Ilex*-leaved *Cliffortia.*
2. *Ruſcus*-leaved *Cliffortia.*
3. *Polygonum*-leaved *Cliffortia.*
4. Trifoliate *Cliffortia.*

Ilex-leaved,

1. *Ilex*-leaved *Cliffortia.* The ſtalks are woody, weak, divide irregularly into many ſlender, ſpreading branches, and grow to be four or five feet high. The leaves are nearly heart-ſhaped, ſharply indented at their ends, rigid, of a greyiſh colour, grow alternately, and embrace the ſtalk with their baſe. The flowers are produced ſingly from the wings of the leaves, ſitting cloſe; they are of a greeniſh-yellow colour, appear in June, and continue in ſucceſſion the greateſt part of the ſummer.

Ruſcus-leaved,

2. *Ruſcus*-leaved *Cliffortia.* The ſtalk is woody, weak, grows to four or five feet high, ſends out ſeveral branches from the ſides, and is covered with a whitiſh bark. The leaves are ſomewhat like thoſe of Butchers Broom, ſpear-ſhaped, ſtiff, ſharp-pointed, and come out in cluſters from the ſides of the branches. The flowers are produced in bunches from the ſides of the branches between the leaves, and appear chiefly in July and Auguſt.

Polygonum-leaved,

3. *Polygonum*-leaved *Cliffortia.* The ſtalk is woody, weak, branching, and grows to three or four feet high. The leaves are narrow, hairy, and ſomewhat reſemble thoſe of Knot Graſs. The flowers are ſparingly produced from the ſides of the branches, and ſhew themſelves in July and Auguſt.

and Trifoliate Cliffortia deſcribed.

4. Trifoliate *Cliffortia.* The ſtalks of this plant are woody, weak, ſlender, branching, and require ſupport to keep them erect. The leaves ſit cloſe to the branches, are trifoliate, and the middle lobe is much larger than the others, and is indented in three parts. The flowers are produced from the wings of the leaves on ſhort footſtalks; they are ſmall, and appear in July and Auguſt.

The flowers of all theſe ſorts are very inconſiderable; they are not poſſeſſed of any corolla, and the ſhow the males make is by their numerous ſtamina, which are generally of a yellowiſh colour. They are all weak, and their branches require ſome ſupport; but they afford great beauty from their leaves, and are deſerving of a place in a collection of Green houſe plants.

Culture.

All theſe plants are propagated by layers. This work ſhould be performed on the young ſhoots in the autumn, or the ſpring of the year. By the ſpring following many of them will have ſtruck root, when they muſt be taken off and potted ſeparately; at this time they ſhould be watered and kept ſhaded until they have commenced a good growing ſtate. In ſummer, let them be ſet abroad with other hardy exotics; and in October, or, if the weather ſhould prove fine, in the beginning of November, they ſhould be taken into the Green-houſe with them, giving them little water in winter, but as much free air as poſſible on all favourable occaſions.

They are alſo propagated by cuttings. Theſe may be planted in any of the ſummer months, in pots filled with light, rich earth; they muſt then be plunged into a hotbed to forward their growth, and be watered and kept ſhaded until they have taken root. When they have commenced a good growing ſtate, they muſt be hardened by degrees to the open air; and when this is effected may be ſet abroad, and managed like the layers.

Titles.

Ilicifolia

1. *Ilex*-leaved *Cliffortia* is titled, *Cliffortia foliis ſubcordatis dentatis.* In the *Hort. Cliff.* it is termed, *Cliffortia foliis dentatis.* Dillenius calls it, *Arbuſcula Afra, folio acuto ilicis caulem amplexo rigido.* It grows naturally in Æthiopia.

Ruscifolia

2. *Ruſcus*-leaved *Cliffortia* is titled, *Cliffortia foliis lanceolatis integerrimis.* Plukenet calls it, *Frutex Æthiopicus conifer, fructu parvo ſparſim intra folia ruſci, ſeminibus cylindricis.* It grows naturally in Æthiopia.

Polygonifolia

3. *Polygonum*-leaved *Cliffortia* is titled, *Cliffortia foliis linearibus piloſis.* It grows naturally in Æthiopia.

Trifoliata.

4. Trifoliate *Cliffortia* is titled, *Cliffortia foliis ternatis: intermedio tridentato.* In the *Hort. Cliff.* it is termed, *Myrica foliis ternatis: intermediis cuneiformibus tridentatis.* Plukenet calls it, *Thymelææ? affinis Æthiopica, foliis tridentatis & ex omni parte hirſutiè pubeſcentibus*; and Boerhaave, *Arbuſcula Afra, foliolis trifoliatis ſine pedunculo ad caulem natis, ſemine pappoſo.* It grows naturally in Æthiopia.

Claſs and order in the Linnæan Syſtem.

Cliffortia is of the claſs and order *Dioecia Polyandria*; and the characters are,

The characters.

I. Male.

1. Calyx is a perianthium compoſed of three oval, acute, coriaceous, patent, deciduous leaves.

2. Corolla. There is none.

3. Stamina are about thirty capillary, erect filaments, the length of the calyx, having didymous, oblong, obtuſe, erect, compreſſed antheræ.

II. Female.

1. Calyx is a permanent perianthium ſituated above the germen, and is compoſed of three equal, erect, acute, ſpear-ſhaped leaves.

2. Corolla. There is none.

3. Pistillum conſiſts of an oblong germen ſituated below the calyx, and two long, filiforme, plumoſe ſtyles, with ſimple ſtigmas.

4. Pericarpium is an oblong, taper, bilocular capſule, crowned by the calyx.

5. Semen. The ſeed is ſingle, narrow, and taper.

* * *

CHAP. LVI.

CLUTIA.

THERE are five ſpecies of this genus; the three hardieſt of which are called,

Species.

1. Alaternoide *Clutia.*
2. Polygonoide *Clutia.*
3. Purſlain-leaved *Clutia.*

Alaternoide,

1. Alaternoide *Clutia.* The ſtalk is woody, ſends forth ſeveral erect branches from the ſides, and grows to be ſix or eight feet high. The leaves are narrow, ſpear-ſhaped, entire, of a greyiſh colour, and grow alternately, ſitting cloſe to the branches. The flowers are produced from the wings of the leaves, growing erect; they are ſmall, of a greeniſh-white colour, and ſhow themſelves in June, July, and Auguſt.

Polygonoide,

2. Polygonoide *Clutia.* The ſtalk is woody, branching, and grows to five or ſix feet high. The leaves are ſpear-ſhaped, narrow, ſmooth, entire, ſharp-pointed, and grow alternately. The flowers come out for the moſt part, two together, from the wings of the leaves, along the ſides of the branches; they are ſmall, pendulent, and appear about the ſame time as the former.

and Purſlain-leaved Clutia deſcribed.

3. Purſlain-leaved *Clutia.* The ſtalk is woody, firm, ſends out ſeveral erect branches from the ſides, and grows to be ſix or eight feet high. The leaves are oval, entire, of a ſea-green colour, and grow alternately on long footſtalks. The flowers come out on ſhort footſtalks along the ſides of the branches; they are ſmall, are of a greeniſh-white colour, appear great part of the ſummer.

Culture.

Theſe are propagated by planting the cuttings in any of the ſummer months. If they are planted in the full ground, watered and ſhaded, they will grow; but they more readily ſtrike root if they are aſſiſted by a moderate warmth of dung. Plant them, therefore, in pots, and plunge them into a ſlight hotbed; water them well, and keep them ſhaded until they are in a growing ſtate. When you have hardened them by degrees to the open air, ſet them abroad in ſome warm, well-ſheltered place, where they may remain until the end of October, and then may be taken into the Green-houſe. They muſt be ſtationed where they may have as much free air as poſſible on all favourable occaſions, ſo as not to be much crouded by other trees, which will occaſion the young ſhoots to grow mouldy and decay, if ſevere weather ſhould require the Houſe to be cloſe ſhut up long.

Titles.

Alaternoides.

1. Alaternoide *Clutia* is titled, *Clutia foliis ſeſſilibus lineari lanceolatis, floribus ſolitariis erectis.* In the *Hort. Cliff.* it is termed, *Croton foliis lineari-lanceolatis.* Plukenet calls it, *Tithymalus arboreus, Æthiopici mezeræi Germanici foliis, flore pallido*; Commeline, *Alaternoides Africana, telephii legitimi imperati folio*; and Burman, *Chamælea foliis oblongis nervoſis, floribus ex foliorum alis*; alſo, *Chamælea foliis latis oblongis, floribus ex alis in ſpicam erectis.* It grows naturally in Æthiopia.

Polygonoides.

2. Polygonoide *Clutia* is titled, *Clutia foliis lanceolatis, floribus geminis pendulis.* Plukenet calls it, *Ciſti helianthemi folio planta.* It is a native of the Cape of Good Hope.

Pulchella.

3. Purſlain-leaved *Clutia* is titled, *Clutia foliis ovatis integerrimis, floribus lateralibus.* In the *Hort. Cliff.* it is termed, *Clutia foliis petiolatis.* Commeline calls it, *Frutex Æthiopicus, portulacæ folio, flore ex albo vireſcente.* It grows naturally in Æthiopia.

Claſs and order in the Linnæan Syſtem.

Clutia is of the claſs and order *Dioecia Gynandria*; and the characters are,

The characters.

I. Male.

1. Calyx is a perianthium as large as the corolla, compoſed of five oval, obtuſe, concave, patent leaves.

2. Corolla is five, patent, heart-ſhaped petals, having plane ungues ſhorter than the calyx.

The five exterior nectariums are divided into three parts, are oblong, patent, the length of the ungues of the petals, and placed circularly.

The five interior nectariums are ſmall, have the appearance of a gland, and bear at the top a honey juice.

3. Stamina are five filaments, ſituated in the middle of the ſtyle remote from the corolla, and ſpread horizontally, having roundiſh verſatile antheræ.

4. Pistillum. There is no germen, but a very long, cylindrical, truncated, ſtaminiferous ſtyle.

II. Female.

1. Calyx is a permanent perianthium, ſimilar to that of the males.

2. Corolla is permanent, and like the males.

The five exterior nectariums are roundiſh, digynous, but as to ſize and ſituation are like thoſe of the males.

There are no interior nectariums.

3. Pistillum conſiſts of a roundiſh germen, and three bifid reflexed ſtyles the length of the corolla, having obtuſe ſtigmas.

4. Pericarpium is a globular, rough, ſix-furrowed capſule, containing three cells.

6. Semina. The ſeeds are ſingle, round, and gloſſy.

CHAP. LVII.

CONVOLVULUS, BINDWEED.

THE *Convolvulus* affords us Annuals and Perennials for the borders of our Pleaſure-gardens, and others of a more delicate contexture for our Green-houſe and Stoves. The ſorts that will do with the moderate protection of the Green-houſe are,

Species.

1. Evergreen Canary Bindweed.
2. Silvery Umbellated Upright Bindweed.
3. Silvery Oriental Bindweed.

Of theſe ſpecies there are many varieties.

Ever-green Canary,

1. Evergreen Canary Bindweed. Of this ſpecies there are the White and the Blue Flowering kinds. Theſe are tall-growing plants, and calculated for our largeſt Green-houſes. In the places where they grow naturally, they will ſhew their heads at the tops of trees and buſhes that are upwards of twenty feet high. The ſtalks are ligneous, hairy, divide into ſmaller ones, and twiſt about any tree or plant that is near them. The leaves are downy, and ſoft to the touch; they are of an oblong, cordated figure, and are very beautiful; and what ſtill enhances their value, is their long continuance on the plant; for it is an Evergreen, and in the winter ſeaſon has a ſweet effect among other Green-houſe plants. The flowers grow ſeveral upon a footſtalk; they are produced from the wings of the leaves, are of different colours according to the varieties, and ſometimes, with good management, will be ſucceeded by ripe ſeeds.

Silvery Umbellated Upright

2. Silvery Umbellated Upright Bindweed. This is a kind of ſhrub which will grow to about a yard in height. The leaves are ſpear-ſhaped, and very downy; they are produced in plenty on all ſides of the ſtalks, and their ſilvery look has a ſweet effect. The flowers are produced in cluſters from the ends of the branches; they are of a pale-red colour, and uſually appear in June and July, tho' they ſeldom produce any ſeeds with us. There is the White Flowering ſort of this ſpecies.

and Silvery Oriental Bind weed deſcribed.

3. Silvery Oriental Bindweed. This will grow to about ſix feet in height. The branches have a winding tendency, and the leaves have a ſilvery look; their general figure is that of an heart, but they are cut into five, or ſeven lobes, ſo as to conſtitute a palmated leaf: They are of a delicate texture, feel like ſattin to the touch, and are placed on ſhort footſtalks on the branches. The flowers are produced from the ſides of the branches on long footſtalks; they are variegated; the ground is a pink colour, ſtriped with a deep-red: Each footſtalk ſupports two flowers, which with us are ſeldom ſucceeded by good ſeeds. There are ſeveral varieties of this ſpecies; ſuch as the Silvery Betony-leaved Bindweed, Silvery *Althea* leaved Bindweed, Silvery Creeping Bindweed, &c.

Culture.

The propagation of all theſe ſorts of *Convolvulus* is very eaſy, and the ways are various. It is to be done by ſuckers, cuttings, layers, and ſeeds. Many of them, eſpecially the Silvery Bindweed, throw out ſuckers in plenty, which being taken off in the ſpring become diſtinct plants. The cuttings of all of them will grow, if planted in a ſhady border of light earth, in any of the ſummer months; they muſt be duly watered in dry weather, and in the autumn muſt be planted in pots, and removed into the Green-houſe with *Geraniums*, Myrtles, &c. But the moſt ſure way is by layers: Lay therefore ſome of the young branches in the ſpring, and they will ſoon ſtrike root, and become good plants. By ſeeds alſo theſe plants are raiſed; but this is hardly worth practiſing, as plenty of them may be ſoon raiſed by the above methods. When this is to be done, however, the ſeeds muſt be obtained from the places where they naturally grow, for hardly any of them ever perfect their ſeeds in England; ſow them in March, on a hot-bed covered with light, rich earth; and when the plants are about three inches high, remove them to another. When the heat of this is abated, take them up, and plant them in ſeparate pots, and ſet them on a third hotbed, filling up the cavities with common mould; give them water and ſhade, and they will ſoon ſtrike root. When they grow too big for theſe ſmall pots, turn them out, with all the mould, into larger, filled with rich, looſe earth; then ſet them in the ſhade, and afterwards they will become proper companions for Myrtles, *Geraniums*, &c. for the common protection of the Green-houſe, is all they will require.

Titles. Canariensis. 1. Ever-green Canary Bindweed. This is entitled, *Convolvulus foliis cordatis pubeſcentibus, caule perenni villoſo, pedunculis multifloris.* Commeline calls it, *Convolvulus Canarienſis ſempervirens, foliis mollibus et incanis*; and Plukenet, *Convolvulus Canarienſis foliis longioribus mollibus incanis.* It grows naturally in the Canary Iſlands.

Cneorum. 2. Silvery Umbellated Upright Bindweed. This is titled, *Convolvulus foliis lanceolatis tomentoſis, floribus capitatis, calycibus hirſutis, caule erectiuſculo*; Moriſon calls it, *Convolvulus major erectus Creticus argenteus*; Tournefort, *Convolvulus argenteus umbellatus erectus*; Cluſius, *Dorycnium*; and Caſpar Bauhine, *Cneorum album, folio argenteo molli.* It grows naturally in Spain, Crete, and Syria.

althaeoides. 3. Silvery Oriental Bindweed. This is titled, *Convolvulus foliis cordatis palmatis ſericeis, lobis repandis, pedunculis ſubbifloris.* In the *Hortus Cliffort.* it is termed, *Convolvulus foliis ovatis diviſis baſi truncatis laciniis intermediis duplo-longioribus.* Caſpar Bauhine calls it, *Convolvulus argenteus, folio althææ*; Barrelier, *Convolvulus, betonicæ althææque foliis, repens argenteus*; Tournefort, *Convolvulus argenteus elegantiſſimus, foliis tenuiter inciſis*; and Van Royen, *Convolvulus foliis cordato-digitatis ſericeis, foliolis linearibus, intermediis duplo-longioribus.* It grows naturally on hilly, ſtoney ground in the Eaſt, in Africa, and in ſome parts of Europe.

CHAP. LVIII.

CORONILLA, JOINTED-PODDED *COLUTEA*.

BESIDES the Scorpion *Sena* already deſcribed for the Shrubbery, there are of this genus other ligneous plants of a low growth, and rather tender nature, called,

Species.
1. Valentine *Coronilla*.
2. Glaucous *Coronilla*.
3. Coronated *Colutea*.
4. Silvery *Coronilla* of Crete.
5. Yellow Spaniſh *Coronilla*.

Valentine 1. Valentine *Coronilla*. The ſtalks of this are ſhrubby, branching, and little more than a foot high. The leaves are pinnated, being compoſed of about nine pair of ſmall folioles, ranged by pairs along the midrib, and terminated by an odd one. The flowers are produced in bunches from the ends of the branches, having long footſtalks; their colour is yellow, they come out in June, and the ſeeds ripen in Auguſt.

and Glaucous Coronilla deſcribed. 2. Glaucous *Coronilla*. The ſtalk of this is ſhrubby, branching, and grows to about two feet high. The leaves are compoſed of five pair of ſmall folioles, which are narrow at their baſe, rounded and indented at the top, of a ſea-green colour, and continue all the year. The flowers are produced from the wings of the leaves on ſlender footſtalks; they are of a bright-yellow colour, ſtrongly ſcented, come out in May, and the ſeeds ripen in Auguſt.

Coronated Colutea 3. Coronated *Colutea*. The ſtalk of this is ſhrubby, branching, and about a foot and a half high. The leaves are compoſed of about nine pair of oval folioles, arranged along the midrib, beſides the odd one with which they are terminated. The flowers are collected in plenty at the ends of the branches; their time of blowing is in June, and the ſeeds ripen in Auguſt.

and Silvery Coronilla of Crete deſcribed. 4. Silvery *Coronilla* of Crete. The ſtalk of this is ſhrubby, branching, and about two feet high. The leaves are compoſed of nine or eleven ſilvery folioles, arranged along the midrib. The flowers are of a yellow colour, come out in May in bunches, and the ſeeds ripen in Auguſt.

Yellow Shrubby Spaniſh Coronilla deſcribed. 5. Yellow Spaniſh Shrubby *Coronilla*. The ſtalk of this is ſhrubby, cornered, and branching a little. The leaves are narrow, ſpear-ſhaped, obtuſe, and of a thickiſh ſubſtance. The flowers are of a yellow colour, come out in May and June, and the ſeeds ripen in Auguſt.

Culture. All theſe plants are raiſed by ſowing the ſeeds on a ſlight hotbed in the ſpring. When the plants are about three inches high, each ſhould be ſet in a ſeparate pot, which ſhould be plunged up to the rim in the mould of a ſecond hotbed; the plants ſhould be then directly watered, and kept conſtantly ſhaded until they have taken root. From this time they muſt be inured by degrees to the open air; and in June the pots muſt be taken out of the beds, and plunged up to the rims in the common garden mould, in a ſhady place, but not under the drip of trees: Here they may ſtand until November, when they ſhould be ſet in the Green-houſe, or under an hotbed frame, or any ſlight ſhelter for the winter. In the ſpring, a ſhare of them may be turned out of the pots, with the mould at the roots, in a warm, well-ſheltered place, and they will live through our mild winters; whilſt the others ſhould be preſerved ſtill in the pots, to be houſed the winter following, to keep up the ſtock, in caſe ſevere weather ſhould put a period to thoſe ſet abroad.

Titles. Valentina. 1. Valentine *Coronilla* is titled, *Coronilla fruticoſa, foliis ſubnovenis, ſtipulis ſuborbiculatis.* In the *Hortus Upſal.* it is termed, *Coronilla fruticoſa, leguminibus teretibus, pedunculis multifloris, caule fruticoſo*; in the *Hortus Cliffort.* *Coronilla leguminibus teretibus, unguibus corollæ brevibus, caule fruticoſo.* Guettard calls it, *Coronilla leguminibus teretibus, unguibus corollæ brevibus, pinnis ad ſummum enneaphyllis, foliolis ovatis*; Caſpar Bauhine, *Polygala altera*; and Cluſius, *Polygala Valentina.* It inhabits Italy and Spain.

Glauca. 2. Glaucous *Coronilla* is titled, *Coronilla fruticoſa foliis ſeptenis, ſtipulis lanceolatis.* Tournefort calls it, *Coronilla maritima, glauco folio*; and Caſpar Bauhine, *Colutea ſcorpioides maritima, glauco folio.* It is a native of France.

Coronata 3. Coronated *Colutea* is titled, *Coronilla fruticoſa, foliis novenis obovatis, foliolis intimis caule approximatis, ſtipulis oppoſiti-foliis bipartitis.* Caſpar Bauhine calls it, *Colutea ſcorpioides minor coronata*; and Cluſius, *Colutea ſcorpioides* 2. It grows naturally in Italy, Portugal, and Spain.

4. Silvery *Coronilla* of Crete is titled, *Coronilla fruticoſa foliolis undenis ſericeis extimo majore.* Alpinus calls it, *Colutea ſcorpioides odorata.* It is a native of Crete. Argentea.

5. Yellow Shrubby Spaniſh *Coronilla* is titled, *Coronilla fruticoſa foliis quinatis ternatiſque lineari-lanceolatis ſubcarnoſis obtuſis.* Barrelier calls it, *Dorychnium luteum Hiſpanicum carnoſius*; Caſpar Bauhine, *Colutea caule geniſtæ fungoſo*; and John Bauhine, *Polygala major Maſſiliotica.* It grows naturally in Spain, and ſome parts of France. Juncea.

CHAP. LIX.

CORYMBIUM.

THERE is only one ſpecies of this genus, called, *Corymbium.*

The plant deſcribed. The root is perennial. The ſtalk is ſlender, herbaceous, rough, and a foot and a half high. The leaves are long, lyre-ſhaped, and the radical ones ſpread themſelves on the ground. The flowers come out at the tops of the ſtalks; they appear in June and July, and are followed by oblong ſeeds, which ſometimes ripen in the autumn.

Culture. This ſpecies may be encreaſed by parting of the roots, but the beſt plants are obtained from ſeeds. Theſe ſhould be ſown in the ſpring on a ſlight hotbed; and about the end of May, when the plants are grown tolerably ſtrong, they ſhould be planted ſeparately in pots filled with good garden mould: They muſt be watered, and ſet in the ſhade at firſt, and afterwards placed in any convenient part of the garden, to remain there until the autumn; and at the end thereof be taken into ſhelter, with the hardieſt kinds of Green-houſe plants. The ſpring following, a ſhare of them may be ſet in the open ground, in ſome warm, well-ſheltered place, where they will flower, and often do better than thoſe confined in pots.

Titles. Africanum. There being no other ſpecies of this genus, it is named ſimply, *Corymbium.* Burman calls it, *Corymbium foliis ad radicem longiſſimis lyratis*; and Plukenet, *Bupleurifolia, ſemine pappoſo, valerianoides umbellata, cauliculo ſcabro*; alſo, *Beupleuri ſimilis planta Æthiopica, ad caulium nodos tomentoſa.* It grows naturally in Æthiopia.

Claſs and order in the Linnæan Syſtem. *Corymbium* is of the claſs and order *Syngeneſia Monogamia*; and the characters are,

The characters. 1. CALYX is a long, two-leaved, priſmatical, hexangular perianthium, placed below the germen, and containing one flower; the leaves are erect, longitudinally connivent, triangular on the back, truncated, obſoletely tridentated, permanent, and have two ſmall leaves at their baſe.

2. COROLLA is one unequal petal; the tube is very ſhort; the limb is divided into five ſpear-ſhaped, ſpreading ſegments.

3. STAMINA are five ſimple, erect filaments, ſitting in the tube, having oblong, erect antheræ, ſhorter than the corolla, growing together in form of a cylinder.

4. PISTILLUM conſiſts of a hairy germen within the calyx; a ſimple, erect ſtyle the length of the corolla; and an oblong ſtigma, divided into two ſpreading parts.

5. PERICARPIUM. There is none.

6. SEMEN. The ſeed is one, oblong, nearly the length of the calyx, and covered with a woolly matter.

CHAP. LX.

COTYLEDON, NAVEL-WORT.

THE ſhrubby ſpecies of this genus, which will do with Green-houſe protection in winters, are,

Species.

1. Cape Round leaved *Cotyledon.*
2. Cape Long-leaved *Cotyledon.*
3. African Hemiſpherical *Cotyledon.*

Cape Round-leaved Cotyledon deſcribed. 1. Cape Round-leaved *Cotyledon.* The ſtalks are thick, ſucculent, ſend forth crooked irregular branches, and are of different heights in the different varieties. The leaves are fleſhy, full of juice, thick, rounded at the top, and of a ſea-green colour, edged with purple. The flowers are produced from the ends of the branches on long, naked, ſucculent footſtalks; each footſtalk ſupports eight or ten flowers, growing in a ſort of umbel; their colour is yellow; they come out in July, Auguſt, and September, but are not ſucceeded by ſeeds in our gardens. The moſt common variety of this ſpecies grows to be three feet high; tho' there is a kind of low growth, ſeldom riſing higher than a foot; and another with leaves remarkably hoary.

Cape long-leaved

2. Cape Long-leaved *Cotyledon.* The ſtalks of this are thick, fleſhy, ligneous, branching, and two or three feet high. The leaves are long, thick, fleſhy, full of juice, narrow, entire, and grow alternately. The flowers are produced, many together, on long, naked, ſucculent footſtalks; they are of a yellowiſh colour, and come out in July, Auguſt, September, and ſometimes October.

and Hemiſpherical Cotyledon deſcribed.

3. Hemiſpherical *Cotyledon.* The ſtalk of this is thick, ſucculent, branching, and about eight inches high. The leaves are ſemi-globular, being ſhort, thick, fleſhy, and convex on their under-ſide, but on the other they are plane; they are full of juice, and of a greyiſh colour ſpotted with green, and they ſit cloſe to the branches. The flowers are produced from the ends of the branches, on long, naked, footſtalks; each footſtalk ſupports about ſix flowers, on which they grow alternately, and ſit cloſe; they are of a greeniſh colour, tipped with purple; they come out in June and July, and are not ſucceeded by ſeeds in our gardens. Of this ſpecies there are a variety or two, of very immaterial difference; and to theſe three ſpecies, all the varieties of the African Shrubby *Cotyledons* we have in our Green-houſes belong.

Culture.

All theſe plants are eaſily propagated by planting the cuttings in pots, filled with light, ſandy, freſh earth; and for want of this, the mould with the turf along with it ſhould be taken from a rich paſture, half a ſpade's depth, a twelvemonth before it is wanted; that by being laid on a heap, by frequent turning the turf may be wholly converted to mould. To this an equal quantity of drift-ſand ſhould be added; and it will become an exceeding good compoſt for all the ſpecies of *Cotyledons* without any addition of lime-rubbiſh, which cannot always be had.

The cuttings, when they are taken from the plants, ſhould be laid in a dry, airy place, about eight days, for the wounded parts to ſkin over. When you find this effected, they ſhould be ſet in ſmall pots, filled with the above earth, and the pots ſhould be immediately ſet in the Green-houſe; the plants ſhould be then ſlightly watered, and this watering ſhould be repeated once a week. When you find them in a growing ſtate, which will be in a month or ſix weeks, they may be taken out of the Green-houſe, and ſet abroad with other tender plants; and early in October they ſhould be removed into the glaſs-caſe, with other ſucculent plants, that they may have air and ſun in plenty. During the winter, they ſhould have but very little water: When the plants require it much, they will give ſigns of it by the ſhrinking of the leaves; but you ought never to let them be unwatered until they ſhew this; and when this happens, they muſt have it but in ſmall quantities at a time, otherwiſe, their veſſels being contracted, they will not have ſtrength ſufficient to diſcharge the moiſture when given.

Another way of raiſing theſe plants, is by plunging the pots up to the rims in the mould of an hotbed, and afterwards uſing them to the air by degrees; but this is unneceſſary trouble, as I ever found them to grow very well by the former method.

Titles.

1. Cape Round-leaved *Cotyledon* is titled, *Cotyledon foliis ſubrotundis planis integerrimis.* Herman calls it, *Cotyledon Africanum fruteſcens incanum, orbiculatis foliis.* It grows naturally at the Cape of Good Hope. Orbiculata.

2. Cape Long-leaved *Cotyledon* is titled, *Cotyledon foliis alternis ſpatulatis carnoſis integerrimis.* Commeline calls it, *Cotyledon Africana fruteſcens, folio longo & anguſto, flore flaveſcente*; and Walther, *Cotyledon Africana, foliis depreſſis cruciatis.* It grows naturally at the Cape. Spuria.

3. Hemiſpherical *Cotyledon* is titled, *Cotyledon foliis ſemi-globoſis.* Dillenius calls it, *Cotyledon Capenſis, folio ſemi-globato.* It grows naturally in Æthiopia. Hemisphaerica.

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CHAP. LXI.

CRASSULA, LESSER ORPINE or LIVE-EVER.

Of this genus are,

Species.

1. Scarlet *Craſſula.*
2. Perfoliate *Craſſula.*
3. Tetragonal *Craſſula.*
4. Cultrated *Craſſula.*
5. Ciliated *Craſſula.*
6. Rough *Craſſula.*
7. Alternate-leaved *Craſſula.*
8. Naked-ſtalked *Craſſula.*
9. Spotted *Craſſula.*
10. Round *Craſſula.*
11. Pellucid *Craſſula.*
12. Purſlain *Craſſula.*

Scarlet,

1. Scarlet *Craſſula.* The ſtalk is round, jointed, branching, uſually of a reddiſh colour, and grows to be three feet high. The leaves are oblong, plane, cartilagineous, ciliated, grow oppoſite, and ſurround the ſtalk, forming a ſheath for it, with their baſe. The flowers are produced from the ends of the branches in cloſe umbels, are of a beautiful ſcarlet colour, and ſtand erect; they appear in July and Auguſt, but are not ſucceeded by ſeeds in England.

and Perfoliate Craſſula deſcribed.

2. Perfoliate *Craſſula.* The ſtalk is upright, ſlender, and ten or twelve feet high. The leaves are ſpear-ſhaped, acute, thick, ſucculent, of a

pale-green colour, channelled on their upper ſide, convex below, grow oppoſite, and ſurround the ſtalk with their baſe. The flowers adorn the top of the ſtalk in large cluſters, are of a whitiſh-green colour, appear in July and Auguſt, but are not ſucceeded by ſeeds in England. The ſtalk of this plant is too weak to ſupport itſelf under the preſſure of the leaves, ſo that it muſt be ſupported to keep it whole and erect.

Deſcription of Tetragonal, 3. Tetragonal *Craſſula.* The ſtalk is upright, ſmooth, and three feet high. The leaves are awl-ſhaped, bluntly cornered, a little incurved, ſpreading, and grow oppoſite to each other. The flowers adorn the tops of the ſtalks in large, flat bunches, and are of a white colour, having purple antheræ; they appear in July and Auguſt, but are not ſucceeded by ſeeds in England.

Cultrated, 4. Cultrated *Craſſula.* The ſtalk is weak, ſucculent, ſends out many irregular branches, and grows to about two feet high. The leaves are obtuſely oval, thick, narrower on one ſide than the other, entire, and grow oppoſite to each other. The flowers come out in looſe bunches from the ends of the branches, growing erect; they are ſmall, greeniſh, and appear in June and July.

Ciliated, 5. Ciliated *Craſſula.* The ſtalk is tender, ſucculent, branching, and about two feet high. The leaves are oval, plane, ciliated, and grow oppoſite to each other. The flowers are produced from the ends of the branches in corymbous bunches, and appear about the ſame time as the former.

Rough, 6. Rough *Craſſula.* The ſtalk is weak, ſucculent, divides upwards into many ſlender branches, and grows to a foot and a half high. The leaves are long, pointed, rough, ſpreading, grow oppoſite, and embrace the ſtalk with their baſe. The flowers are produced from the ends of the branches in ſmall cluſters, are ſmall, of a greeniſh colour, and appear in June and July.

Alternate-leaved, 7. Alternate-leaved *Craſſula.* The ſtalk is upright, tender, and undivided. The leaves are oblong, pointed, plane, indented, and grow alternately. The flowers come out ſingly from the wings of the leaves, at the upper parts of the ſtalks; they are of a yellow colour, hang downward, and ſhew themſelves in June and July.

Naked-ſtalked, 8. Naked-ſtalked *Craſſula.* The radical leaves, for there are none on the ſtalk, are long, ſucculent, awl-ſhaped, pointed, and form a head at the crown of the root. From the midſt of theſe the flower-ſtalk ariſes, which is naked, divides into two or three branches near the top, and grows to be ſix or eight inches high. The flowers are produced in cluſters from the ends of the branches, are of a greeniſh colour, and appear chiefly in May and June.

Spotted, 9. Spotted *Craſſula.* The ſtalks are ſmooth, ſlender, trailing, ten inches long, full of joints, and of a reddiſh colour. The leaves are oblong, oval, thick, ſucculent, convex on their underſide, of a greyiſh colour, ſpotted, and grow oppoſite to each other. The flowers are produced in cluſters from the ends of the ſtalks; they are ſmall, of a white colour, appear in May, and frequently again in the autumn.

Round, 10. Round *Craſſula.* The ſtalks are ſlender, flaccid, and trailing. The leaves are thick, ſucculent, and collected into round, imbricated, ſpreading heads, in the manner of Houſe-leek. The flowers are produced in cluſters from the center of theſe heads, ſtanding on naked footſtalks; they are of a greeniſh colour, appear in the ſpring, ſummer, and autumn, and frequently in the winter.

Pellucid, 11. Pellucid *Craſſula.* The ſtalks are ſlender, flaccid, ſucculent, lie on the ground, and ſtrike root at the joints. The leaves are ſmall, and grow oppoſite to each other at the joints. The flowers are produced in ſmall cluſters from the ends of the branches, and are of a white colour, having a tinge of purple at the rims; they appear early in ſummer, frequently in July, Auguſt, and the autumn, and ripe ſeeds often follow the firſt-blown flowers.

and Purſlain Craſſula. 12. Purſlain *Craſſula.* The ſtalk is woody, thick, robuſt, ſucculent, ſends out branches from the bottom, which diminiſh gradually in length as they approach the top, and grows to be three or four feet high. The leaves are oboval, wedge-ſhaped, grow oppoſite, and much reſemble thoſe of Purſlain. The branches are very tender, ſucculent, of a reddiſh colour, and, from the pyramidical growth of the tree, form a beautiful appearance; though the flowers ſeldom or never appear in theſe countries.

Culture. All theſe ſpecies are propagated with the greateſt eaſe. Thoſe that form themſelves into heads, ſuch as the eighth ſpecies, by offſets; thoſe with trailing branches, as the tenth and eleventh ſpecies, by ſuffering them to lie on the ground, and ſtrike root at the joints, and then taking them off; and the reſt by cuttings. All of them, eſpecially the cuttings, ſhould be laid in a dry place, for the wounded parts to ſkin over, and be then planted in pots filled with light, ſandy earth; or they may be planted in a ſhady border, and afterwards, when they have taken root, be ſet in pots. They are all moderately hardy, and require no artificial heat; but, being ſucculent, are not proper to be crowded in the Green-houſe with other plants. They ſhould therefore be ſet in a glaſs-caſe, where they muſt have much free air and ſun at all times; but during the winter they muſt have very little water. In ſummer they ſhould be ſet abroad in warm well-ſheltered places, and may be watered once or twice a-week, if the weather proves hot and dry.

Titles. 1. The firſt ſpecies is titled, *Craſſula foliis planis cartilagineo-ciliatis baſi connato-vaginantibus.* Commeline calls it, *Cotyledon Africana fruteſcens, flore umbellato coccineo*; and Breynius, *Cotyledon Africana fruteſcens, flore carneo amplo.* It grows naturally in Æthiopia. Coccinea.

2. The ſecond ſpecies is, *Craſſula foliis lanceolato-ſubulatis ſeſſilibus connatis plano-canaliculatis: ſubtus convexis.* Dillenius calls it, *Craſſula altiſſima perfoliata*; and Commeline, *Aloe Africana cauleſcens perfoliata glauca & non ſpinoſa.* It grows naturally in Æthiopia. Perfoliata.

3. The third ſpecies is, *Craſſula foliis ſubulatis obſoletè tetragonis.* It grows naturally in Æthiopia. Tetragona.

4. The fourth ſpecies is, *Craſſula foliis oppoſitis obtuſè ovatis integerrimis: hinc anguſtioribus.* Dillenius calls it, *Craſſula anacampſerotis folio.* It grows naturally in Æthiopia. Cultrata.

5. The fifth ſpecies is, *Craſſula foliis oppoſitis ovalibus planiuſculis diſtinctis ciliatis, corymbis terminalibus.* Dillenius calls it, *Craſſula cauleſcens, foliis ſempervivi cruciatis.* It grows naturally in Æthiopia. Ciliata.

6. The ſixth ſpecies is, *Craſſula foliis oppoſitis patentibus connatis ſcabris ciliatis, caule retrorſum ſcabro.* Dillenius calls it, *Craſſula meſembryanthemi facie, foliis longioribus aſperis*; and Martin, *Cotyledon Africana fruteſcens, foliis aſperis anguſtis acuminatis, flore vireſcente.* It grows naturally in Africa. Scabra

7. The ſeventh ſpecies is, *Craſſula foliis ſerrato-dentatis planis alternis, caule ſimpliciſſimo, floribus pendulis.* Alternifolia

pendulis. Burman calls it, *Craſſula foliis oblongis acutis dentatis, flore ex alis ſolitario flavo*; and Herman, *Cotyledon, flore luteo, Media.* It grows naturally in Æthiopia.

Nudi-caulis. 8. The eighth ſpecies is, *Craſſula foliis ſubulatis radicalibus, caule nudo.* Dillenius calls it, *Craſſula ceſpitoſa longifolia.* It grows naturally in Æthiopia.

Punctata. 9. The ninth ſpecies is, *Craſſula foliis oppoſitis ovatis punctatis ciliatis: inferioribus oblongis.* In Miller's Dictionary it is termed, *Craſſula caule flaccido, foliis connatis cordatis ſucculentis, floribus confertis.* Ray calls it, *Telephium fruteſcens, floribus ſpicatis minimis, folio triangulari craſſo.* It grows naturally in Æthiopia.

10. The tenth ſpecies is, *Craſſula caule flaccido prolifero determinato folioſo, foliis patentiſſimis imbricatis.* Dillenius calls it, *Craſſula orbicularis repens; foliis ſempervivi.* It grows naturally in Æthiopia. Orbicularis.

11. The eleventh ſpecies is, *Craſſula caule flaccido repente, foliis oppoſitis.* Dillenius calls it; *Craſſula; portulacæ facie, repens.* It grows naturally in Æthiopia. Pellucida.

12. The twelfth ſpecies is, *Craſſula; foliis obovatis oppoſitis, caule arboreo.* In the *Hortus Cliffort.* it is termed, *Anacampſeros caule arboreo; foliis cuneiformibus oppoſitis.* Dillenius calls it, *Craſſula portulacæ facie arboreſcens.* It grows naturally in Æthiopia. Portulacaria.

CHAP. LXII.

CRATÆGUS, The INDIAN WILD SERVICE.

The plant deſcribed. THE Indian Wild Service is a ſhrub about four or five feet high, branching, and altogether diſarmed of thorns. The leaves are broad, ſpear-ſhaped, ſerrated, of a thickiſh conſiſtence, and are placed on footſtalks on the branches. The flowers terminate the branches in a corymbus, being attended by awl-ſhaped bracteæ; they come out early in the ſummer, but are rarely ſucceeded by fruit in our gardens.

Culture. It is propagated by ſowing of the ſeeds, which ſhould be procured from India, or ſuch countries where they ripen well. They are generally two years before they come up; ſo that the beſt way will be to ſet them in pots or boxes, and then put them in a ſhady place in the ſummer, and under an hotbed frame in the winter. In the ſpring, plunge them into a moderate hotbed, as it will facilitate the growth of the ſeeds; after they come up, they muſt often be watered, hardened by degrees to the open air, and when they are of a ſufficient ſize ſhould reſpectively be tranſplanted into ſmall pots; and every ſecond year after they ſhould be ſhifted into larger, according to their growth.

It is alſo propagated by budding upon ſtocks of the White Thorn; and plants raiſed this way are ſaid to be hardier than thoſe immediately from the ſeeds.

Title. The Indian Wild Service is titled, *Cratægus foliis lanceolatis ſerratis, caule inermi, corymbis ſquamoſis.* It grows naturally in India. Indica.

CHAP. LXIII.

CRINUM, ASPHODEL LILY.

IN our Green-houſes are found two curious ſpecies of this genus, called,

Species.

1. African Aſphodel Lily.
2. Broad-leaved Aſphodel Lily.

Deſcription of African Aſphodel, 1. African Aſphodel Lily. The root is compoſed of many thick, white, fleſhy fibres, collected into a head at the top. The leaves form a cluſter on the crown of the root; they are nearly ſpear-ſhaped, plane, ſurround each other with their baſe two or three inches high, and then ſpread themſelves two ways. The ſtalk is round, hollow, two feet high, and ſtands by the ſide of the leaves. The flowers are produced from the top of the ſtalk, in a kind of large umbel; they are of a bright-blue colour, and very beautiful; they appear in September, and continue to ſhew themſelves all winter, and ſometimes the greateſt part of the ſpring following.

and Broad-leaved Aſphodel Lily. 2. Broad-leaved Aſphodel Lily. The root is thick, fleſhy, white, and the fibres diverge from the common head, and ſtrike deep into the ground. The leaves are broad, oval, ſpear-ſhaped, pointed, and ſit cloſe to the crown of the root. The ſtalk is tender, round, and about two feet high. The flowers are produced from the top of the ſtalks, iſſuing from a two-leaved involucrum, which is reflexed after the flowers are out; they appear at different times of the year, but more eſpecially in the autumn and winter.

Culture. They are propagated by the offſets, which ſhould be carefully taken from the roots about the

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the end of June. The offsets ſometimes ſeparate eaſily; and ſometimes the fibres are ſo implicated with thoſe of the old root, that it is with great difficulty they are ſeparated, without much injuring them; but when it ſo happens that the plants are broken or much bruiſed, or that they had ſo cloſely adhered to the old root as to have been forced to be taken off with the knife, they muſt have very little water after planting, or the wounded parts will be in great danger of rotting. Having obtained your offsets, plant them ſeparately in pots filled with light, ſandy, freſh earth, and ſet them in a ſhady part of the garden; give them but little water until they have commenced a good growing ſtate; then remove them into the full air, let your waterings be in moderate quantities, and be repeated as often as dry weather ſhall make it neceſſary, and continue this till the end of ſummer. The ſtrongeſt offsets will frequently flower the firſt autumn, the others not before the autumn following; in either caſe, when their flowers appear, they ſhould be removed under ſhelter, to preſerve their beauty; and in the end of October, or early in November, as the ſeaſon proves, they muſt be taken into the Green-houſe, where they muſt have much free air, water ſparingly at proper intervals, and in the ſpring may be ſet abroad, in any open part of the garden that appears moſt convenient.

Titles. Africanum.

1. The firſt ſpecies is titled, *Crinum foliis ſublanceolatis planis, corollis obtuſis.* In the *Hortus Cliffort.* it is termed, *Polyanthos floribus umbellatis.* Burman calls it, *Hyacinthus Africanus tuberoſus, flore cæruleo umbellato*; and Plukenet, *Hyacintho affinis, tuberoſâ radice, Africana, umbellâ cæruleâ inodorâ.* It grows naturally in Æthiopia.

latifolium.

2. The ſecond is titled, *Crinum foliis ovato-lanceolatis acuminatis ſeſſilibus planis.* It grows naturally in the ſandy parts of Aſia.

Claſs and order in the Linnæan Syſtem. The characters.

Crinum is of the claſs and order *Hexandria Monogynia*; and the characters are,

1. Calyx is a two-leaved, oblong, umbelliferous involucrum, ſhaped like a ſpatha, and becomes reflexed after dividing.

2. Corolla is one funnel-ſhaped petal; the tube is oblong, cylindrical, and inflexed; the limb is divided into ſix ſpear-ſhaped, linear, obtuſe, concave, reflexed ſegments.

3. Stamina are ſix awl-ſhaped, connivent filaments, ariſing from the baſe of the limb, having oblong, linear, aſſurgent, incumbent antheræ.

4. Pistillum conſiſts of a germen in the bottom of the corolla, an awl-ſhaped ſtyle ſhorter than the ſtamina, and a ſmall, trifid ſtigma.

5. Pericarpium is a ſuboval capſule, containing three cells.

6. Semina. The ſeeds are many.

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CHAP. LXIV.

CUNONIA.

At preſent we have only one ſpecies belonging to this genus, called *Cunonia.*

The plant deſcribed.

The ſtalks are woody, branching, and eight or ten feet high. The leaves are winged, and have membranaceous footſtalks; the folioles are about three pair, terminated by an odd one; they are oblong, ſpear-ſhaped, ſerrated, ſmooth, and of a good green colour on their upper ſide, but ſomewhat hoary underneath, and ſit cloſe to the midrib. The flowers are produced in ſpikes at the ends of the branches, and are followed by oblong capſules containing the ſeeds.

Culture.

This is propagated by ſowing the ſeeds on a hotbed in the ſpring. When the plants are three or four inches high, they muſt be planted ſeparately in pots filled with light, rich earth; then they are to be plunged into a hotbed of tanner's bark, where they muſt be watered, and kept ſhaded until they have taken root; afterwards they muſt be hardened by degrees to the open air, and ſet abroad in ſome warm, well-ſheltered part of the garden, to remain there until the early part of the autumn, and then be taken into ſhelter with the more tender kinds of Green-houſe plants.

Titles. Capensis.

There being no other ſpecies belonging to this genus, it is called ſimply, *Cunonia.* Burman calls it, *Ooſterdykia floribus ſpicatis pentapetalis, foliis oblongis ſubincanis ſerratis*; and Plukenet, *Arbuſcula, arbuti alatis foliis, Africana.* It grows naturally at the Cape of Good Hope.

Claſs and order in the Linnæan Syſtem. The characters.

Cunonia is of the claſs and order *Decandria Digynia*; and the characters are,

1. Calyx is a ſmall perianthium, compoſed of five oval, concave, acute leaves.

2. Corolla conſiſts of five, oboval, patent, ſeſſile petals.

3. Stamina are ten awl-ſhaped filaments the length of the corolla, with roundiſh, didymous antheræ.

4. Pistillum conſiſts of a conical germen, and two awl-ſhaped ſtyles longer than the corolla, with obtuſe ſtigmas.

5. Pericarpium is an oblong, acuminated capſule, containing two cells.

6. Semina. The ſeeds are many, and roundiſh.

CHAP. LXV.

CYTISUS, BASE TREE TREFOIL.

THE ſpecies of this genus proper for the Green-houſe are,

Species.

1. Æthiopian *Cytiſus.*
2. Cape *Cytiſus.*

Æthiopian and Cape Cytiſus deſcribed.

1. Æthiopian *Cytiſus.* The ſtalks are ſhrubby, weak, about five feet high, and ſend forth ſeveral angular, weak branches from the ſides. The leaves grow three together, and are wedge-ſhaped, roundiſh, ſmall, and downy underneath. The flowers come out in ſmall bunches from the ſides of the ſtalks; they are ſmall, and of a pale-yellow colour, come out in June and July, but are rarely ſucceeded by ſeeds in our gardens. There is a variety of this ſpecies with ſpear-ſhaped leaves and deep-yellow flowers.

2. Cape *Cytiſus.* The ſtalks are ligneous, weak, and ſend forth ſeveral weak, angular branches. The leaves are ſpear-ſhaped, and very hoary underneath. The flowers are ſmall, and of a yellow colour; they come out from the ends and ſides of the branches in June and July, but are very rarely ſucceeded by pods in England.

Culture.

Theſe are eaſily propagated by ſowing the ſeeds on a ſlight hotbed in March. When the plants come up, they muſt have plenty of air, be frequently watered, and when they are about four inches high, ſhould be ſet in pots filled with light, freſh earth. If at this time they were to be plunged into a ſecond hotbed, and be well watered and ſhaded, it would facilitate their ſtriking root, tho' they will grow without it: If they have the hotbed, they muſt be hardened, as ſoon as poſſible, to the open air; and in either caſe, when they are ſet abroad, they muſt be plunged up to the rims in a ſhady part of the garden, but not under the drip of trees. Here they may remain until the middle of September, when they ſhould be removed to where they can have the benefit of the ſun until eleven of the o'clock, and in the beginning of October they ſhould be ſet in a full ſouth aſpect: There they may ſtand until the end of that month, or the beginning of November, as the ſeaſon will permit, and be then removed into the Green-houſe for their winter lodgings. The ſpring following, about a fortnight before they are taken out of the houſe, they muſt be ſhifted into larger pots; and afterwards they may be ſet abroad, with other Green-houſe plants, and managed accordingly.

Titles.

1. Æthiopian *Cytiſus* is titled, *Cytiſus racemis lateralibus ſtrictis, ramis angulatis, foliolis cuneiformibus.* Plukenet calls it, *Cytiſus Æthiopicus, ſubrotundis incanis minoribus foliis, floribus parvis luteis.* It grows naturally in Æthiopia.

Æthiopicus.

2. Cape *Cytiſus* is titled, *Cytiſus ſpicis pubeſcentibus, ramis angulatis, foliis lanceolatis, caule ſuffruticoſo.* Plukenet calls it, *Planta.* It grows naturally at the Cape of Good Hope.

Psoraloides.

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CHAP. LXVI.

DAIS.

AT preſent we have only one ſpecies of this genus, called *Dais.*

The plant deſcribed.

The ſtalk is woody, and ſends out ſeveral ligneous branches from the ſides. The leaves are oval, undivided, ſmooth, and grow oppoſite to each other on ſhort footſtalks. The flowers come out in bunches at the ends of the branches, and are ſucceeded by berries, each containing one ſeed.

Culture.

This is propagated by planting the cuttings in a bed of good earth, during any of the ſummer months. They muſt be cloſely covered down with bell hand-glaſſes, or mats, until they have taken root, when they ſhould be hardened by degrees to the open air. All along they muſt be duly watered; and when they have commenced a good growing ſtate, they muſt be taken up with a ball of earth to each root, and planted ſeparately in pots filled with good, light garden mould. They muſt be watered, and ſet in the ſhade for a week or ten days, by which time they will be eſtabliſhed in their new ſituation; then they ſhould be removed into a warm, well-ſheltered place, to remain there until the autumn, obſerving all along to afford them proper ſupplies of water. In the early part of the autumn, they muſt be taken into a good Green-houſe, with the tenderer ſorts of Green-houſe plants, and managed accordingly.

They are alſo raiſed by ſeeds, and by this method the beſt plants are produced. Theſe muſt be ſown in pots in the ſpring, and plunged into a hotbed of tanner's bark. When the plants are fit to remove, they muſt be potted ſeparately, and plunged again into the hotbed, where they muſt be watered, and kept ſhaded at firſt; then hardened by degrees to the open air; and afterwards be ſet abroad, and managed like the cuttings.

Titles.

There being no other ſpecies of this genus, it is named ſimply, *Dais.* It grows naturally at the Cape of Good Hope.

Cotinifolia.

Claſs and order in the Linnæan Syſtem.

Dais is of the claſs and order *Decandria Monogynia*; and the characters are, The characters. 1. Calyx. The involucrum is compoſed of four ſcarioſe, erect leaves, and contains many flowers.

There is no perianthium.

2. Corolla is one infundibuliforme petal, longer than the involucrum; the tube is filiforme and rude; the limb is divided into five ſpear-ſhaped, obtuſe ſegments.

3. Stamina are ten filaments, which are alternately ſhorter, inſerted in the mouth of the flower, and ſhorter than the limb, having ſimple antheræ.

4. Pistillum conſiſts of an oblong germen growing to the baſe of the corolla, a filiforme ſtyle the length of the tube, and a riſing, globular ſtigma.

5. Pericarpium is a berry.

6. Semen. The ſeed is one.

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C H A P. LXVII.

DAPHNE, MEZEREON.

THE more tender ſpecies of this genus are,

Species. 1. Æthiopian *Daphne*, or Woolly-headed *Thymelæa*.

2. Indian *Daphne*.

Æthiopian, 1. Æthiopian *Daphne* is a branching ſhrub, about ſix feet high. The ſtem is robuſt; the branches are erect, are covered with a white bark, and form a beautiful head. The leaves are ſmall, narrow, acute-pointed, ſpreading, and are placed without order on the branches. The flowers come out in cluſters from the ends of the branches; their colour is white, they appear in June and July, and are rarely ſucceeded by good ſeeds in England.

and Indian Daphne deſcribed. 2. Indian *Daphne* is a ſmall ſhrub, about a foot and half or two feet high. The leaves are oblong, oval, ſmooth, undivided, and are placed oppoſite. The flowers come out in ſmall cluſters, ſitting cloſe, on one common footſtalk, which ariſes from the ends of the branches; they uſually appear in June or July, but are very rarely ſucceeded by good ſeeds in our gardens.

Culture. Theſe plants are propagated by ſowing of the ſeeds in pots filled with light, ſandy, rubbiſhy earth. To facilitate their growth, the pots ſhould be plunged into an hotbed; and when they come up, all ſhould be drawn out except one plant, leaving the ſtrongeſt in each pot. As the heat of the bed abates, they muſt be uſed to the air, and muſt then be ſet in a ſhady part of the garden until the autumn, when they ſhould be removed into the Green-houſe, with other tender plants. They muſt from time to time be ſhifted into larger pots, as often as their growth requires it; and in doing of this, the greateſt care muſt be taken not to diſturb the mould about the roots, for they bear tranſplanting very ill. They will require very little water, eſpecially in the winter; and in ſpring they muſt be among the laſt ſet of plants that are removed out of the houſe, and in autumn among the firſt that are brought into it.

Titles. 1. Æthiopian *Daphne*, or Woolly-head *Thymelæa*, is titled, *Daphne floribus terminalibus pedunculatis, foliis ſparſis linearibus patentibus mucronatis*. Burman calls it, *Thymelæa capitata lanuginoſa, foliis creberrimis minimis aculeatis*. It grows naturally in Æthiopia. Squarrosa.

2. Indian *Daphne* is titled, *Daphne capitulo terminali pedunculato, foliis oppoſitis oblongo-ovatis glabris*. It grows naturally in China. Indica.

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C H A P. LXVIII.

DIGITALIS, FOX-GLOVE.

THE ſpecies of this genus which comes in here is uſually called, The Shrubby Canary Fox-glove.

The plant deſcribed It is a delightful plant, and the very ſtem, branches, and leaves, as well as flowers, conſpire to inforce our eſteem. It will grow to about a yard high. The ſtalk is ſhrubby, branching, and of a purpliſh hue. The branches are purpliſh, or of a reddiſh colour, and are made ſtill more beautiful by a kind of cottony down that covers them. The leaves are ſpear-ſhaped, rough, pointed, hardly half a foot long, and are about two inches broad; their edges are lightly ſerrated, and they grow alternately on the branches without any footſtalks. The flowers are produced in ſpikes from the ends of the branches; each conſiſts of a large ſwelling quadrifid petal; they are of a bright-yellow colour; they will be in blow from May to the end of the ſummer, and will often ſhew themſelves in the Green-houſe in winter; but it is from the firſt-blown flowers that the beſt ſeeds are gathered.

Culture. Theſe plants are eaſily raiſed from ſeeds, by ſowing them either in the autumn or the ſpring. If it is deferred until the ſpring, the beſt way will be to ſow them thinly on a moderate hotbed to bring them forward. When the plants appear, give them as much air as poſſible, frequently ſprinkle them with water, and harden them as much as the nature of their ſituation will admit. When they are fit to tranſplant, let each be ſet, with a ball of earth at the root, in a ſeparate pot; which being done, the pots ſhould be plunged up to the rims in a ſhady part of the garden, and the plants be well watered: This muſt be repeated often, if the weather proves dry. Here they may ſtand all ſummer, and be removed into the Green-houſe at the approach of winter.

Titles. Canariensis. This ſpecies is titled, *Digitalis calycinis foliolis lanceolatis corollis bilabiatis acutis, caule fruticoſo.* In the *Hort. Cliff.* it is termed. *Geſneria foliis lanceolatis ſerratis, pedunculo terminali laxe ſpicato.* Commeline calls it, *Digitalis acanthoides Canarienſis fruteſcens, flore aureo*; and Plukenet, *Digitali affinis Canarienſis, ſolidaginis acutis foliis leviter piloſis, flore aureo cucullato.* It grows naturally in the Canary Iſlands.

CHAP. LXIX.

DIOSMA, AFRICAN *SPIRÆA*.

THIS genus conſiſts of the following ſpecies, called,

Species.
1. Oppoſite-leaved African *Spiræa*.
2. Hairy African *Spiræa*.
3. Red African *Spiræa*.
4. Heath-like African *Spiræa*.
5. Ciliated African *Spiræa*.
6. Lanceolated African *Spiræa*.
7. Crenated African *Spiræa*.
8. One-flowered African *Spiræa*.
9. Pretty African *Spiræa*.

Oppoſite-leaved African, 1. Oppoſite-leaved African *Spiræa*. The ſtem is woody, ſends out ſeveral long, ſlender branches, and grows to be three feet high. The leaves are awl-ſhaped, acute, and placed croſswiſe. The flowers are produced along the branches, almoſt their whole length; they are of a white colour, and continue in beauty a long time.

Hairy African, 2. Hairy African *Spiræa*. This is by Gardeners commonly called the Sweet-ſcented African *Spiræa*. The ſtalks are woody, branching, of a coral colour, and grow to five or ſix feet high. The leaves are narrow, pointed, hairy, and grow alternately. The flowers come out in cluſters from the ends of the branches; they are ſmall, and of a white colour; they appear in July and Auguſt, and the ſeeds ſometimes ripen in the autumn. Not only the flowers, but the leaves, and every part of this plant, afford a grateful odour.

Red African, 3. Red African *Spiræa*. The ſtem is woody, branching, and grows to about two or three feet high. The leaves are narrow, ſharp-pointed, ſpotted underneath, and of an aromatic odour. The flowers are produced in cluſters from the ends of the branches; they are of a fine red colour, have an agreeable odour, and continue in beauty a long time.

Heath-like African, 4. Heath-like African *Spiræa* is a ſhrub, and grows to two or three feet high. The leaves are narrow, ſpear-ſhaped, pointed, and convex underneath. The flowers come out from the ends and ſides of the branches; and theſe, as well as every part of the plant, are finely ſcented.

Ciliated African, 5. Ciliated African *Spiræa*. The ſtalks are ſhrubby, branching, and grow to four or five feet high. The leaves are ſmall, ciliated, and ſpear-ſhaped. The flowers are produced from the ends of the branches in umbels; they are of a white colour, appear moſtly in ſummer, and frequently in the autumn.

Lanceolated African, 6. Lanceolated African *Spiræa* is a ſhrub three or four feet in height. The leaves are ſhort, ſmooth, and ſpear-ſhaped. The flowers come out from the ends of the branches, and ſhow themſelves great part of the ſummer.

Crenated African, 7. Crenated African *Spiræa*. The ſtalks are ſhrubby, and branching. The leaves are ſpear-ſhaped, oval, glandulous, and crenated on their edges. The flowers are produced ſingly from the wings of the leaves, and appear in June and July.

One-flowered African, 8. One-flowered African *Spiræa*. The ſtalks are woody, branching, and grow to three or four feet high. The lower leaves are long, oval, oblong, and ſpotted; the upper ones are ſmall, and almoſt round. The flowers are produced ſingly from the ends of the branches; they are large, of a fleſh-colour, being ſpotted on the edges, and underneath have ſpots of a deeper dye.

and Pretty African Spiræa deſcribed. 9. The Pretty African *Spiræa*. This is a pretty little ſhrub, indeed. The ſtalks are woody, upright, branching, and about two feet high. The leaves are oval, obtuſe, glandulous, and crenated. The flowers come out two together from the wings of the leaves; they are ſmall, and of a beautiful blue colour.

Culture. All theſe ſorts are propagated by planting the cuttings, in any of the ſummer months, in pots filled with rich, light earth. They ſhould then be plunged up to the rims in a hotbed, be watered, and kept ſhaded until they have taken root, and afterwards muſt be gradually hardened to the open air. When this is effected, they ſhould be ſet abroad in ſome warm, well-ſheltered place; or if you have ſet many cuttings in one pot, they ſhould be now potted ſeparately, be watered, and ſhaded until they have taken root. In either caſe, they may remain abroad as long as the weather continues mild; but muſt, upon the firſt appearance of froſt, be taken into cover, with other Green-houſe plants; letting them abroad again in the ſpring, to enrich the collection, and add to the variety.

Titles. Oppositifolia. 1. Oppoſite-leaved African *Spiræa* is titled, *Dioſma foliis ſubulatis acutis oppoſitis.* Commeline calls it, *Spiræa Africana, foliis cruciatim poſitis.* It grows naturally at the Cape of Good Hope.

Hirsuta 2. Hairy African *Spiræa* is titled, *Dioſma foliis*

liis linearibus hirſutis. Commeline calls it, *Spiræa Africana odorata, foliis piloſis.* It grows naturally at the Cape of Good Hope.

Rubra. 3. Red African *Spiræa* is titled, *Dioſma foliis linearibus mucronatis glabris carinatis ſubtus bifariam punctatis.* In the *Hort. Cliff.* it is termed, *Dioſma foliis ſetaceis acutis.* Commeline calls it, *Spiræa Africana odorata, floribus ſuaverubentibus*; and Plúkenet, *Erica Æthiopica, roſmarini ſylveſtris folio eleganter punctato, flore tetrapetalo purpureo.* It grows naturally in Æthiopia.

Ericoides. 4. Heath-like African *Spiræa* is titled, *Dioſma foliis lineari-lanceolatis ſubtus convexis bifariam imbricatis.* Ray calls it, *Spiræa Africana, ericæ bacciferæ foliis*; and Plukenet, *Ericæformis, coridis folio, Æthiopica, floribus pentapetalis in apicibus.* It grows naturally in Æthiopia.

Ciliata 5. Ciliated African *Spiræa* is titled, *Dioſma foliis lanceolatis ciliatis.* Plukenet calls it, *Spirææ forte genus Africanum, ſerpilli hirſutis foliis, fruticoſum, floribus albis umbellatis.* It grows naturally in Æthiopia.

Lanceolata. 6. Lanceolated African *Spiræa* is titled, *Dioſma foliis lanceolatis glabris.* Ray calls it, *Spiræa Africana, ſaturejæ foliis brevioribus.* It grows naturally in Æthiopia.

Crenata. 7. Crenated African *Spiræa* is titled, *Dioſma foliis lanceolato-ovalibus glanduloſo-crenatis, floribus ſolitariis.* It grows naturally in Æthiopia.

Uniflora. 8. One-flowered African *Spiræa* is titled, *Dioſma foliis ovato-oblongis, floribus ſolitariis terminalibus.* Plukenet calls it, *Ciſtus humilis Æthiopicus, inferioribus foliis roſmarini ſylveſtris punctatis, cæteris autem ſerpilli ſubrotundis, flore carneo.* It grows naturally in Æthiopia.

Pulchella. 9. The Pretty African *Spiræa* is titled, *Dioſma foliis ovatis obtuſis glanduloſo-crenatis, floribus geminis axillaribus.* It grows naturally in Æthiopia.

Claſs and order in the Linnæan Syſtem. The characters.

Dioſma is of the claſs and order *Pentandria Monogynia*; and the characters are,

1. CALYX is a permanent perianthium, divided into five narrow, acute parts, which are plane at their baſe.

2. COROLLA is five oval, obtuſe, ſeſſile, erect, ſpreading petals, the length of the calyx.

The nectarium is hollow, five-pointed, obtuſe, and ſits on the germen in form of a corona.

3. STAMINA are five awl-ſhaped filaments, with ſuboval, erect antheræ.

4. PISTILLUM conſiſts of a germen crowned by the nectarium, a ſimple ſtyle the length of the ſtamina, and an obſolete ſtigma.

5. PERICARPIUM conſiſts of five oval, acuminated, compreſſed capſules, which are joined by the inner border, but have their points ſpreading, and open by the upper ſuture.

6. SEMINA. The ſeeds are ſingle, oblong, oval, depreſſed, and pointed at the top.

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C H A P. LXX.

DRACOCEPHALUM, DRAGON's HEAD.

The plant deſcribed.

THE Balm of Gilead is a ſpecies of this genus. It is as often ſeen in our parlours, and the other rooms of our houſes, as in the Green-houſe. The ſtalks are ſquare, branching, ligneous near the bottom, herbaceous higher, and grow to be four or five feet high. The leaves are uſually compoſed of three folioles, though there are often five on the ſame footſtalk, and they grow oppoſite to each other at the joints; the folioles are of a fine green colour, oblong, ſerrated, ſharp-pointed, and are remarkable for their powerful and exhilarating odours on being bruiſed. The flowers are produced from the ends of the branches in ſhort, cloſe ſpikes; they are ſmall, of a pale-red or blue colour, and are often whitiſh underneath; they continue to ſhow themſelves the greateſt part of the ſummer, and the firſt-blown flowers are ſucceeded by good ſeeds in our gardens.

Culture.

This ſpecies is propagated by planting cuttings, in any of the ſummer months. They may be ſet in pots, or in the open ground; and if they are at firſt ſhaded, and duly watered, they will ſoon ſtrike root. If the cuttings are planted in the open ground, ſome plants ſhould be taken up with a good ball of earth to the roots, and be ſet in pots, to be preſerved through the winter in the Green-houſe or ſome room, whilſt a ſhare may be left remaining to take their chance through the winter; for it ſometimes happens that theſe plants will ſurvive a moderate winter's cold, in a good ſituation; beſides, ſuch plants are always more luxuriant, and grow longer the ſummer following, than thoſe that are in the pots.

Though the raiſing theſe plants by cuttings is the common cuſtom, they are better multiplied, and encreaſed in greater plenty, by ſowing the ſeeds. No art is required in doing this; for the ſeeds ripen ſo freely here, that they will often ſcatter, and come up like weeds all over the garden; nay, I have found them, after I had removed my plants into the Green-houſe, in the autumn, growing between the ſtones of the cauſeway on which the parent plants in the pots had been ſituated for their ſummer reſidence; which ſhews that theſe ſeeds are not over-nice in their ſituation, but will grow any where. In the ſummer, therefore, as the ſeeds ripen, ſow them in a bed of fine mould in a ſhady place, and ſlightly rake them in; if dry weather ſhould happen, water the beds every other evening, and in a little time your plants will come up. In October, let each plant be ſet in a ſeparate, ſmall pot, to be houſed for the winter. In the ſpring, let a ſhare of them be ſet in larger pots, to be continued as Green-houſe plants; and the remainder may be turned out into the open air, in the different parts of the pleaſure-ground, where they will flower, and be much ſtronger than thoſe in the pots. The ſeeds alſo may be ſown in the ſpring. When this buſineſs is deferred until that time, it will be proper, though not abſolutely neceſſary, to give them the aſſiſtance of a ſlight hotbed to bring them forward. When the plants come up, they muſt be hardened by degrees to the open air; and when they are fit to remove, one part of them ſhould be ſet in pots, to be managed as before; while the other ſhare may be ſet abroad, in the open ground, to take their chance with the ſeaſons as they may happen. If the ſeeds are not raiſed in a hotbed, the ſowing of them in the open ground ſhould be deferred until April; otherwiſe the plants will come up, and be in danger of being deſtroyed by the late ſpring froſts, which often happen.

Titles. Canariense.

This ſpecies is titled, *Dracocephalum floribus ſpicatis, foliis compoſitis.* Volkamer calls it, *Dracocephalo affinis Americana trifoliata, terebinthinæ odore*; Moriſon, *Camphoroſma*; Plukenet, *Meliſſa forte Canariana triphyllos, odorem camphoræ ſpirans penetrantiſſimum*; and Commeline, *Cedronella Canarienſis viſcoſa, foliis plerumque ex eodem pedicello ternis.* It is ſuppoſed to grow naturally in the Canary Iſlands.

CHAP. LXXI.

EBENUS, EBONY.

Of this genus there is only one ſpecies yet known, commonly called, Ebony of Crete.

The plant deſcribed. The ſtalk is upright, woody, branching, and grows to three or four feet high. The leaves are compoſed of three or five ſpear-ſhaped, hoary folioles, which join at their baſe. The flowers are produced in thick ſpikes from the ends of the branches, are large, and of a reddiſh-purple colour; they appear in June and July, and ripen their ſeeds in the autumn.

Culture. This plant is propagated by ſowing the ſeeds in pots or boxes, in the autumn, ſoon after they are ripe. The pots muſt be ſet in a warm, well-ſheltered place, until the froſts come on; then they muſt be placed under a hotbed frame, or be ſet in the Green-houſe until the return of mild weather, when they ſhould conſtantly be ſet abroad in the open air. In the ſpring, the plants will come up; but if they appear ſo early that danger may be apprehended from bad weather, let them be taken into the Green-houſe, placing them near the windows, that they may have the benefit of the ſun and free air. When the plants are about three or four inches high, they muſt be potted ſeparately, and be ſet abroad in ſome warm, well-ſheltered part of the garden: Here they may remain until the end of autumn, and then be taken into ſhelter with the hardieſt of the Green-houſe plants.

They muſt from time to time be ſhifted into larger pots, as often as they ſhall require; and when they come to blow, ſhould be ſet in the moſt conſpicuous parts of the garden, for they make a beautiful figure, both by their fine-fingered, hoary leaves, and thick ſpikes of large, purple flowers.

Titles. Cretica.

It being the only ſpecies belonging to this genus, it is named, ſimply, *Ebenus.* Alpinus calls it, *Ebenus Cretica*; Van Royen, *Trifolium ſpicis ovatis villoſis, caule fruticoſo*; Sauvages, *Anthyllis fruticoſa, foliolis ternatis ac quinatis lanceolatis tomentoſis*; Caſpar Bauhine, *Cytiſus incanus Creticus*; Barrelier, *Barba Jovis cytiſi folio, flore rubello*; and Plukenet, *Loto affinis alato, folio & facie pentaphylloidis fruticoſi, floribus in ſpicam longiorem poſitis.* It grows naturally in Crete.

Claſs and order in the Linnæan Syſtem. The characters. *Ebenus* is of the claſs and order *Diadelphia Decandria*; and the characters are,

1. Calyx is a monophyllous, bell-ſhaped perianthium, divided at the top into five filiforme ſegments, which are acute, hairy, nearly equal, and longer than the tube.

2. Corolla is papilionaceous, and the length of the calyx.

The vexillum is roundiſh, ſtraight, and entire.

The rudiments of the alæ are obſolete, and lunated.

The carina is lunated, gibbous, and its top riſing.

3. Stamina are diadelphous filaments, with roundiſh antheræ.

4. Pistillum conſiſts of a roundiſh, hairy germen, a capillary ſtyle, and a terminal, mucronated ſtigma.

5. Pericarpium is an oval pod.

6. Semen. The ſeed is ſingle.

C H A P. LXXII.

ECHIUM, VIPER's BUGLOSS.

THERE are two ſpecies of this genus which require protection in winters, called,

Species. 1. Æthiopian *Echium.*

2. Cape *Echium.*

Æthiopian, 1. Æthiopian *Echium.* The ſtalks are ſhrubby, branching, and grow to about a yard high. The leaves are oval, hairy, ſeſſile, of a light-green colour, and grow alternately on the branches. The flowers come out ſingly from the upper parts of the branches; they are of a purple colour, and moderately large; they appear in May and June, and are ſucceeded by ripe ſeeds in Auguſt.

and Cape Echium deſcribed. 2. Cape *Echium.* The ſtalks of this plant are ſmooth, ligneous near the bottom, tough, and grow to about a foot and half high. The leaves are oblong, ſpear-ſhaped, ſpotted, and rough on their edges. The flowers come out in looſe ſpikes from the wings of the leaves, are of a purple colour, irregular in their figure, and have ſmooth cups; they appear in June and July, and ſometimes ripen their ſeeds in the autumn. There is a variety of this with blue flowers.

Culture. The plants are eaſily propagated by ſowing the ſeeds in pots filled with light, ſandy, freſh earth. The pots ſhould be ſet in the Green-houſe during the winter, or under a hotbed frame; and in March ſhould be plunged into a moderate hotbed: This will effectually bring the plants up. When they are fit to remove, each ſhould be ſet in its own ſeparate pot, which ſhould be plunged again into a hotbed, watered, and ſhaded, until they have taken root. From this time they muſt be hardened by degrees to the open air; and when this is effected, they ſhould be ſet abroad in a warm, well-ſheltered place. Early in October they muſt be removed into the Green-houſe, or if they are ſet in the glaſs-caſe they will reliſh it better. Nevertheleſs, when ſuch a convenience is wanting, they will flouriſh very well in a good Green-houſe; but being rather tender, they ſhould be among the laſt that are ſet abroad in the ſpring, and among the firſt that are brought under ſhelter in the autumn.

1. Æthiopian *Echium* is titled, *Echium caule fruticoſo.* Commeline calls it, *Echium Africanum fruticans, foliis piloſis.* It grows naturally in, Æthiopia. Titles. Fruticoſum.

2. Cape *Echium* is titled, *Echium caule lævi foliis lanceolatis nudis: margine carinâ apiceque ſcabris.* Older calls it, *Echium Africanum perenne, lycopſis facie*; Herman, *Echium Africanum minus, foliis oblongis ſcabris, floribus cæruleis*; and Plukenet, *Bugloſſum Africanum, echii folio, flore purpureo.* It grows naturally at the Cape of Good Hope. Lævigatum.

C H A P. LXXIII.

ERIGERON.

The plant deſcribed. ONE ſpecies of this genus requires protection from hard froſts in winter, called, Cape *Erigeron*, Perennial Stinking Groundſel, or African Flea-bane. The ſtalks of this plant are herbaceous, hairy, ſend out ſeveral branches from the ſides, and grow to about four feet high. The leaves are ſpear-ſhaped, retuſe, narrow, ſeſſile, of a deep-green colour on their upper ſides, come out in cluſters, and continue all the year. The flowers terminate the branches in roundiſh bunches; they are of a golden-yellow colour, but are deſtitute of thoſe great ornaments which belong to that kind of compound flowers, the rays; they appear in October and November, and will continue to ſhow themſelves in the Green-houſe the greateſt part of the winter. In the ſpring, good ſeeds may be collected from the firſt blown flowers.

Culture. This ſpecies is propagated by ſowing the ſeeds in April, in a bed of light mould, made fine. The bed ſhould immediately be hooped, be ſhaded in the middle of the day, and be watered every third day, if very dry weather ſhould happen. In about ſix weeks your plants will come up; they muſt be covered in hot weather, and watered as often as there ſhall be occaſion; the weeds muſt be plucked up as they ariſe. When the plants are fit to remove, each ſhould be ſet in a ſeparate pot filled with light, rich earth. They ſhould then have a good watering, be plunged up to the rims in a ſhady part of the garden, where they may remain until November, and then be taken into the Green-houſe, with the hardieſt of the plants, for they require protection only from hard froſts.

They alſo are propagated by cuttings. Theſe may be planted in any of the ſummer months, in pots filled with light, rich earth. The pots muſt then be ſet in the Green-houſe, in a ſhady part; where the plants muſt be duly watered, and they will ſoon ſtrike root. As ſoon as this is well effected, they muſt be taken out of the Green-houſe, otherwiſe they will draw weak, and aſſume a ſickly a ſickly appearance; they muſt be plunged up to the rims in the common mould, in a ſhady place, but not under the drip of trees; and laſtly, be taken into the Green-houſe, with other hardy plants.

Titles.
Folidum.

This ſpecies is titled, *Erigeron foliis lanceolato-linearibus retuſis, floribus corymboſis.* Houſtoun calls it, *Senecio Africanus, folio retuſo*; Plukenet, *Senecio fœtidus Africanus perennis, foliis confertim naſcentibus*; and Herman, *Conyza Africana, ſenecionis flore, foliis retuſis.* It grows naturally in Africa.

CHAP. LXXIV.

ERIOCEPHALUS.

Species.

THIS genus conſiſts of two ſpecies, called,

1. African *Eriocephalus.*

African,

2. Racemoſe *Eriocephalus.*

1. African *Eriocephalus.* The ſtalk is woody, ſends out many ſide branches from the bottom to the top, and grows to be three or four feet high. The leaves are produced in cluſters; they are white, woolly, and ſome of them are entire, and others are divided into three or five digitated parts; they are ſcented, and when bruiſed emit a ſtrong odour. The flowers are produced from the ends of the branches in roundiſh bunches; the rays of the flowers are white, with a tinge of red on the outſide, but the diſk is purpliſh; they appear in the autumn, but are not ſucceeded by ſeeds in England.

and Racemoſe Eriocephalus deſcribed.

2. Racemoſe *Eriocephalus.* The ſtalk is woody, and ſends out many branches from the ſides. The leaves are narrow, undivided, of a ſilvery white colour, and when bruiſed ſmell like Southern-wood. The flowers are produced in looſe ſpikes from the ends of the branches, and appear about the ſame time with the former.

Culture.

Theſe are propagated by planting the cuttings in any of the ſummer months. The cuttings will grow if planted in the full ground, kept covered with mats, and duly watered; but it is cuſtomary to plant many together in pots, and give them the aſſiſtance of a moderate warmth of dung or tanner's bark; in either caſe, when they have commenced a good growing ſtate, they muſt be potted ſeparate, and ſet in ſome warm, well-ſheltered part of the garden, where they may remain until the end of October, and then be taken into the Green-houſe with the other plants. A damp air is very prejudicial to theſe plants, as well as froſt, ſo that they muſt be ſituated where they can have as much ſun and free air as poſſible; for which reaſon, if there is the conveniency of a glaſs-caſe, it will be a more eligible ſituation for them than the Green-houſe, which is too often over crouded, to the deſtruction of many good plants. They muſt have but little water in winter, muſt be ſet abroad in ſummer with other Green-houſe plants, and they muſt be duly watered if the weather proves hot and dry.

Titles.
Africanus.

1. The firſt ſpecies is titled, *Eriocephalus foliis integris diviſiſque, floribus ſubcorymboſis.* Dillenius calls it, *Eriocephalus ſempervirens, foliis faſciculatis & digitatis*; and Walther, *Abrotanum Africanum, folio tereti tridentato.* It grows naturally in Æthiopia.

Racemoſus.

2. The ſecond is titled, *Eriocephalus foliis linearibus indiviſis, floribus racemoſis.* Ray calls it, *Abrotanum Africanum, foliis argenteis anguſtis, floribus ſpicatis.* It grows naturally at the Cape of Good Hope.

Claſs and order in the Linnæan Syſtem; The characters.

Eriocephalus is of the claſs and order *Syngeneſia Polygamia Neceſſaria*; and the characters are,

1. CALYX. The common calyx is erect, and conſiſts of ten oval, equal, connivent ſcales, of which the five exterior ones are carinated, and the interior ones plane.

2. COROLLA. The compound flower is radiated; the hermaphrodite florets occupy the diſk, and the females, which are five in number, the radius; each hermaphrodite floret is funnel-ſhaped, and cut at the brim into five ſpreading ſegments; the female florets are tongue-ſhaped, obcordated, and divided at the end into three ſmall equal lobes.

3. STAMINA of the hermaphrodites conſiſt of five very ſhort, capillary filaments, with a cylindrical, tubular anthera.

4. PISTILLUM of the hermaphrodites conſiſts of a ſmall, naked germen, a ſimple ſtyle, and a bifid acute ſtigma.

In the females, it conſiſts of an oval, naked germen, a ſimple ſtyle, and an acuminated, inflexed ſtigma.

5. PERICARPIUM. There is none.

6. SEMINA. Of the hermaphrodites, there are none.

The ſeeds of the females are ſingle, oboval, and naked.

CHAP.

CHAP. LXXV.

ERYTHRINA, The CORAL-TREE.

IN the Green-houſe may be preſerved one ſpecies of this genus, called, Herbaceous *Erythrina*, or Carolina Coral.

The plant deſcribed. The root is large, thick, and woody. The ſtalks are ſimple, two feet high, and die to the root every year. The leaves are trifoliate, haſtated, and of a deep-green colour. The flowers are produced in long ſpikes from the top of the ſtalk; they are of a ſcarlet colour, and very beautiful; but the plants very ſeldom flower, and the ſeeds do not ripen in England.

Culture. It is propagated from ſeeds, which muſt be procured from the countries where they naturally grow. They muſt be ſown in pots filled with light, freſh earth, and plunged into a hotbed; when the plants are three inches high, they muſt be potted ſeparate, be again plunged into a hotbed, watered, and kept ſhaded until they have taken root; after that they muſt be hardened by degrees to the open air, and then ſet abroad in ſome warm, well-ſheltered place, where they may remain until the autumn, and then be taken into the Green-houſe with the other plants.

Titles. Herbacea This ſpecies is titled, *Erythrina foliis ternatis, caulibus ſimpliciſſimis fruticoſo-annuis.* Dillenius calls it, *Coral Caroliniensis, haſtato folio*; and Cateſby, *Corallodendron humile, ſpicâ florum longiſſimâ, radice craſſiſſimâ.* It grows naturally in South Carolina.

Claſs and order in the Linnæan Syſtem. The characters. *Erythrina* is of the claſs and order *Diadelphia Decandria*; and the characters are,

1. CALYX is a monophyllous, tubular, undivided perianthium, ſlightly indented at the top, and furniſhed with a melliferous pore at the bottom.

2. COROLLA is papilionaceous, and is compoſed of five petals.

The vexillum is very long, ſpear-ſhaped, riſing, and deflexed on the ſides.

The alæ are ſmall, nearly oval, and ſcarce longer than the calyx.

The carina is dipetalous, the length of the alæ, and indented at the top.

3. STAMINA are ten unequal, ſlightly incurved filaments, joined together below, and half the length of the vexillum, having ſagittated antheræ.

4. PISTILLUM conſiſts of a pedicellated, awl-ſhaped germen, an awl-ſhaped ſtyle the length of the ſtamina, and a terminal, ſimple ſtigma.

5. PERICARPIUM is a very long, ſwelling, ſharp pointed pod, containing one cell.

6. SEMINA. The ſeeds are kidney-ſhaped.

CHAP. LXXVI.

EUPHORBIA, BURNING THORNY PLANT.

THE ſpecies of this genus which will flouriſh unaſſiſted with artificial heat in our gardens, are,

Species.

1. Septangular Burning-Thorny Plant.
2. Polygonous *Euphorbium.*
3. Mauritanian Spurge.
4. Torch Thiſtle *Euphorbium.*
5. *Caput Meduſæ*, or Meduſa's Head.

Septangular Burning Thorny Plant deſcribed. 1. Septangular Burning Thorny Plant. This hath a thick, ſucculent, upright ſtalk, which riſes to about a yard high, and ſends forth ſeveral ſucculent, ſeptangular branches, armed with long, black, awl-ſhaped, ſingle ſpines. The flowers come out from the ends of the ſpines; they are ſmall, and of a greeniſh colour, of the ſame ſtructure with the common Spurge, and ſometimes, though not often, are ſucceeded by ſmall, roundiſh capſules, each of which contains three cells.

Polygonous Euphorbium deſcribed. 2. Polygonous *Euphorbium.* The ſtalks are ſucculent, roundiſh, ſwelling in the middle, have many tuberous or knobbed angles, and between them long, ſtraight ſpines. They grow to about two feet high, and ſend forth a few lateral branches, which are ſwelling in the middle, angular, knotty, and prickly like the main ſtalks. The flowers are produced from the ends of the branches, ſitting cloſe to the angles, without any footſtalks; they are very ſmall, and of a yellowiſh-green colour.

Mauritanian Spurge deſcribed. 3. Mauritanian Spurge. The ſtalks of this are ſlender, weak, ſucculent, taper, covered with a light-green bark, grow to be three or four feet long, and, unleſs ſupported, lie on the ground. The leaves are oblong, ſmooth, entire, and come out alternately all round the upper part of the ſtalks, but the lower parts are naked. The flowers come out from the ends of the branches in cluſters; they are ſmall, of a yellowiſh-green colour, and ſometimes are ſucceeded by roundiſh, ſmooth capſules, containing the ſeeds, which hardly ever ripen in England.

4. Torch Thiſtle *Euphorbium.* The ſtalks of this are thick, ſucculent, have many angles armed with ſingle awl-ſhaped ſpines, and ſend forth irregular, diſtorted branches, which are ſlender, and have many angles, armed with ſingle ſpines, like thoſe of the main-ſtalks. The flowers are produced from the angles at the ends of the branches; they are ſmall, and of a greeniſh-white colour, and are ſometimes ſucceeded by ſmall roundiſh capſules, containing the ſeeds.

5. *Caput Meduſæ*, or Meduſa's Head. This ſpecies comprehends ſeveral varieties of great ſingularity, called by the reſpective names of

Varieties.

Common Meduſa's Head.
Little Meduſa's Head.
Dwarf Procumbent Meduſa's Head.
Spreading Meduſa's Head.
Deciduous Meduſa's Head.
Double-branched Meduſa's head.

Common Meduſa's Head. The ſtalks of this ſort are thick, roundiſh, ſucculent, ſcaly, and ſend forth many ſcaly, ſucculent, roundiſh branches, which twiſt and wind over each other in the manner of ſerpents; and from the winding property of theſe ſcaly ſerpent-like branches, the name Meduſa's Head was applied to this ſpecies. The leaves of this variety are thick, narrow, ſucculent, are produced chiefly from the upper part of the branches, but ſoon drop off. Near the ends of the branches alſo the flowers appear; their colour is white, and they are ſometimes followed by round, ſmooth capſules, containing the ſeeds.

Little Meduſa's Head. The ſtalk of this variety is thick, but ſhort, ſeldom riſing to more than ſix or eight inches high. From this proceed many ſlender, ſhort, trailing branches, which twiſt and wind over each other, in the manner of the former. The leaves are narrow, and come out from the ends of the branches. The flowers are of a white colour, and are produced from the ſame parts, like the former ſort.

Dwarf Procumbent Meduſa's Head. The ſtalk of this plant is ſtill lower, growing ſeldom to more than three inches high. The branches are little more than half a foot long, have ſwelling ſcales, which are almoſt ſquare, and ſpread themſelves on the ground. It is not often that this variety exhibits its flowers; but when they do appear, they ſhew themſelves from the ends of the branches, like the former.

Spreading Meduſa's Head. The ſtalks of this plant grow to about half a foot high, and ſend forth a few branches, which ſpread themſelves all around; theſe branches are not ſcaly, but in other reſpects are poſſeſſed of all the properties of the former ſorts.

Deciduous Meduſa's Head. The ſtalks of this ſort grow to little more than a foot high, ſending forth ſeveral ſucculent, ſcaly branches, which lie on the ground. The leaves are narrow, come out from the ends of the branches, but ſoon drop off. The flowers are ſmall, and of a white colour, are produced in plenty from the ends of the branches, and are often followed by round, ſmooth capſules, containing the ſeeds.

Double-branching Meduſa's Head. The ſtalk of this variety is thick, ſucculent, oblong, and ſmooth, and ſends forth ſeveral weak, double branches, which ſpread themſelves on the ground. The leaves are narrow, come out from the ends of the branches, and among them the flowers, which are of a white colour, and ſhaped like the former.

Culture.

All theſe ſorts are propagated by planting the cuttings, in any of the ſummer-months. When they are taken from the plants, the cuttings ſhould be laid in a dry, airy place, for the wounded parts to ſkin over; and when this is effected, they ſhould be ſet each in a pot, filled with a light, rubbiſhy, ſandy, poor earth. The pots ſhould be then plunged into a moderate hotbed, and the plants ſhould be ſhaded until they have taken root. When they are in a growing ſtate, the glaſſes muſt be wholly taken off; and if the weather ſhould prove very dry, the plants ſhould be now and then watered. In the autumn, they muſt be removed into a good Green-houſe, that will effectually keep out the froſt; or rather, if there be a glaſs-caſe, ſhould be placed therein: Here they may ſtand, with very little water, all winter, and in the ſummer may be ſet abroad with other tender plants. If the Green-houſe is not a very warm one, or is crowded with numerous other plants, and no glaſs-caſe is to be had, they muſt be removed into the coldeſt ſtove, the place of their uſual reſidence; but if either of the above conveniencies is to be had, they will flouriſh extremely well in ſuch places, as they require no artificial heat, and want protection from froſts and cold damps only in winter.

The cuttings will keep good for many months, if neceſſary; ſo that they may be ſent to any diſtance, provided they are not packed too cloſe. When the cuttings are firſt taken off, it is cuſtomary to rub ſome dry earth over the wounded part; which is a very good way, as it has a great tendency to ſtop the bleeding, and cauſe the parts to heal over the ſooner.

Titles.

Heptagona

1. Septangular Burning Thorny Plant is titled, *Euphorbia aculeata nuda ſeptem angularis, ſpinis ſolitariis ſubulatis floriferis.* Boerhaave calls it, *Euphorbium heptagonum, ſpinis longiſſimis in apice frugiferis.* It grows naturally in Æthiopia.

Mammil=
=laris.

2. Polygonous *Euphorbium* is titled, *Euphorbia aculeata nuda angulis tuberoſis ſpinis interſtinctis.* Commeline calls it, *Tithymalus aizoides Africanus, validiſſimis ſpinis ex tuberculorum internodiis provenientibus.* It grows naturally in Æthiopia.

Mauritanica.

3. Mauritanian Spurge is titled, *Euphorbia inermis ſeminuda fruticoſa filiformis flaccida, foliis alternis.* Dillenius calls it, *Tithymalus aphyllus Mauritaniæ.* It grows naturally on the maritime parts of Africa.

Cereifor=
=mis.

4. Torch Thiſtle *Euphorbium* is titled, *Euphorbia aculeata nuda multangularis, ſpinis ſolitariis ſubulatis.* Boerhaave calls it, *Euphorbium cerei effigie, caulibus gracilioribus*; Burman, *Euphorbium aphyllum angulofum, florum comâ dentiſſimâ*; and Moriſon, *Tithymalus Africanus ſpinoſus, cerei effigie.* It grows naturally in Æthiopia.

Caput
Medusa.

5. *Caput Meduſæ*, or Meduſa's Head, is titled, *Euphorbia inermis imbricata tuberculis foliolo lineari inſtructis.* Commeline calls it, *Tithymalus aizoides Africanus, ſimplici ſquamato caule, chamænerii folio*; Burman, *Euphorbium erectum aphyllum, ramis rotundis, tuberculis tetragonis*; alſo, *Euphorbium humile procumbens, ramis ſimplicibus copioſis, caule craſſiſſimo tuberoſo*; alſo, *Euphorbium procumbens, ramis plurimis ſimplicibus ſquamoſis, foliis deciduis*; alſo, *Euphorbium procumbens, ramis geminatis, caule glabro oblongo cinereo.* It grows naturally in Æthiopia.

CHAP. LXXVII.

FERRARIA.

THERE is only one ſpecies of this genus, called, *Ferraria.*

The plant deſcribed.

The root is tuberous, roundiſh, compreſſed, brown on the outſide, and white within. The ſtalk is thick, round, upright, branching near the top, and a foot and an half high. The leaves are nearly ſword-ſhaped, obtuſe-pointed, ſmooth, hollowed, of a light green-colour, grow alternately, and embrace the ſtalk with their baſe. The flowers come out from the ends of the branches on ſhort footſtalks; they are of a whitiſh-green colour on their outſide, and of a violet colour within; they appear in April, but are not ſucceeded by ſeeds in England.

Varieties.

There is a variety with deep-purple, and another with reddiſh flowers.

Culture.

Theſe are beſt propagated from ſeeds, which muſt be procured from the countries where the plants naturally grow. They muſt be ſown in pots filled with light, ſandy earth, and then plunged into a hotbed, the ſooner to bring them up; on their appearance, they muſt have as much air as the weather will permit; and when they are fit to remove, each muſt be ſet in a ſeparate pot, filled with the like kind of light earth. When they are in a growing ſtate, they muſt be hardened to the open air, and may be ſet abroad in ſome warm, well-ſheltered place until November, when they muſt be removed into the Green-houſe, or placed under ſome ſhelter for their winter lodgings.

They may alſo be encreaſed by offſets. Theſe muſt be planted in ſmall pots like the ſeedlings, and afterwards managed accordingly.

Titles.

Undulata.

There being no other ſpecies of this genus, it is termed ſimply, *Ferraria.* Barrelier calls it, *Iris ſtellata, cyclaminis radice, pullo flore*; Rudbeck, *Narciſſus Indicus, flore ſaturatè purpureo*; and Ferrarius, *Flos Indicus e violaceo fuſcus, radice tuberoſâ.* It grows naturally at the Cape of Good Hope.

Claſs and order in the Linnæan Syſtem. The characters.

Ferraria is of the claſs and order *Gynandria Triandria*; and the characters are,

1. Calyx conſiſts of two carinated ſpathæ, placed alternately, and containing each one flower.

2. Corolla is ſix oblong, acuminated petals, fringed and turned back on their edges, and alternately ſmaller.

3. Stamina are three filaments ſitting on the ſtyle, having roundiſh, didymous antheræ.

4. Pistillum conſiſts of a roundiſh, triquetrous, obtuſe germen ſituated below the flower, a ſimple, erect ſtyle, and three bifid, fimbriated, curled ſtigmas.

5. Pericarpium is an oblong, triquetrous capſule, which is thickeſt at the upper end, formed of three valves, and containing three cells.

6. Semina. The ſeeds are numerous, and roundiſh.

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CHAP. LXXVIII.

GALENIA.

THERE is only one ſpecies of this genus, called, *Galenia.*

The plant deſcribed.

The ſtalk is woody, ſends out many weak, ligneous branches, and grows to be four feet high. The leaves are narrow, very much reſemble thoſe of Roſemary, and come out without order from every ſide of the branches. The flowers are produced in panicles from the ends and ſides of the branches; they are ſmall, of a yellowiſh-green colour, appear in July and Auguſt, but are not ſucceeded by ripe ſeeds in England.

Culture.

This ſpecies is propagated by planting the cuttings, in any of the ſummer months, in pots filled with light, rich earth. The pots muſt be then plunged up to the rims in the common mould of the garden, in a ſhady place; and for want of this, they muſt be covered with mats until they have taken root. If ſhade be thus afforded them, and they are duly watered, they will readily grow; and if ſeveral cuttings have been planted in each pot, they ſhould be potted ſeparately, and then ſet in the ſhade as before. All ſummer they muſt be duly watered in dry weather, and in November muſt be taken into the Green-houſe with the hardieſt exotics. In the ſpring they ſhould be taken out among the firſt, and in the winter be ſtationed where there is the greateſt current of air; for they are tolerably hardy, and require protection only from froſt.

Titles.

Africana.

There being no other ſpecies belonging to this genus, it is named ſimply, *Galenia.* Pontedera calls it, *Sherardia*; Boccone, *Kali lignoſum, flore muſcoſo, roſmarini folio*; and Tilli, *Atriplex Africana lignoſa fruteſcens, roſmarini foliis.* It grows naturally in Africa.

Claſs and order in the Linnæan Syſtem. The characters.

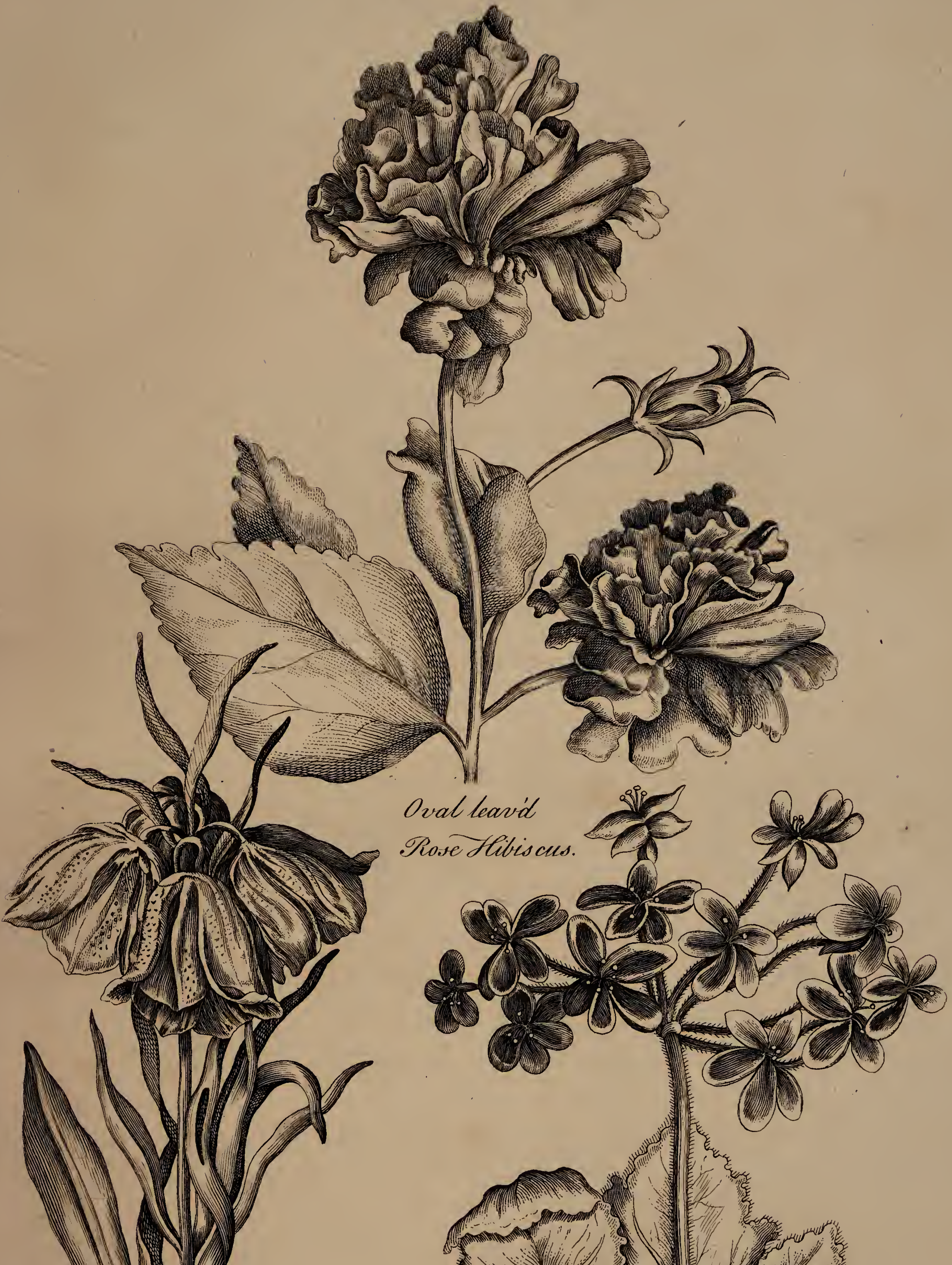
Galenia is of the claſs and order *Octandria Digynia*; and the characters are,

1. Calyx is a ſmall perianthium cut into four oblong, concave ſegments.

2. Corolla. There is none.

3. Stamina

1 8



Oval leav'd
Rose Hibiscus.

Vine-leav'd
Geranium.

Broad leav'd Cluster Frutillary.

3. Stamina are eight capillary filaments ſcarcely the length of the calyx, having didymous antheræ.

4. Pistillum conſiſts of a roundiſh germen, and two ſimple, reflexed ſtyles, with ſimple ſtigmas.

5. Pericarpium is a roundiſh capſule, containing two cells.

6. Semina. The ſeeds are two, angular, and oblong.

CHAP. LXXIX.

GENISTA, BROOM.

THERE is a beautiful ſpecies of this genus which is too tender to live in winters without the protection of the Green-houſe, called,

Species. The Canary Broom.

This ſpecies is ranked as a *Cytiſus* among old botaniſts, and is uſually called the Evergreen *Cytiſus* of the Canary Iſlands; but ſince the improvements in the ſcience, it is found to be a Broom, and has taken the name of Canary Broom.

The plant deſcribed. It is a ſhrub about eight or ten feet high. The ſtalks are woody, tough, flexible, and ſend forth numerous ſlender branches, which are hairy and angular. The leaves are trifoliate, wedge-ſhaped, ſmall, hairy, of a dark-green colour, and continue all the year. The flowers come out in looſe ſpikes from the ends of the branches, and are of a bright yellow colour; they appear in May, and are ſucceeded by ſhort, hairy pods, frequently containing ripe ſeeds in Auguſt.

Variety. There is a variety of this ſpecies with white flowers.

Culture. It is propagated by ſowing the ſeeds on a ſlight hotbed in the ſpring. When the plants are fit to remove, each ſhould be ſet in a ſeparate pot, which ſhould be plunged into a ſecond hotbed, and the plants ſhaded and watered until they have taken root. As ſoon as this is effected they muſt be hardened to the open air, and then be taken out, and plunged up to the rims in the mould of a ſhady part of the garden. Here they may remain until the end of October, and be then removed into ſhelter with other hardy Green-houſe plants.

Titles. Canariensis. This ſpecies is titled, *Geniſta foliis ternatis tomentoſis petiolatis, ramis angulatis.* Caſpar Bauhine calls it, *Cytiſus minoribus foliis, ramulis tenellis villoſis*; Cluſius, *Cytiſus* I.; Commeline, *Cytiſus Canarienſis ſempervirens & incanus*; and Plukenet, *Cytiſus Canarienſis microphyllos anguſtifolius prorſus incanus.* It grows naturally in Spain and the Canary Iſlands.

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CHAP. LXXX.

GERANIUM, CRANE's BILL.

I SHALL arrange the tender ſpecies of *Geraniums* under two heads; the Shrubby and Herbaceous.

Of the Shrubby kinds there are,

Species.
1. Fulgid or *Alcea*-leaved Scarlet *Geranium.*
2. Mallow-leaved Scarlet *Geranium.*
3. Papilionaceous *Geranium.*
4. Birch-leaved *Geranium.*
5. Rough-leaved *Geranium.*
6. Hood-leaved *Geranium.*
7. Gibbous-ſtalked *Geranium.*
8. Fleſhy-ſtalked *Geranium.*
9. Peltated *Geranium.*
10. Sorrel-taſted *Geranium.*
11. Horſe-ſhoe *Geranium.*
12. Vine-leaved *Geranium.*
13. Capitated or Roſe *Geranium.*

Fulgid or Alcea-leaved Scarlet 1. Fulgid or *Alcea*-leaved Scarlet *Geranium.* The ſtalk is fleſhy, about a foot long, and divides into a few branches. The leaves are ſmooth, of a light-green colour, and compoſed of three parts: Theſe are cut on their edges, and the middle one is the largeſt. The flowers grow from the ſides of the ſtalks on ſhort footſtalks, and are of a moſt elegant bright ſcarlet colour: They compoſe little umbels, and make their appearance at uncertain times; coming out ſometimes in the ſpring, ſometimes in the ſummer, and very frequently in October. The leaves of this ſort uſually fall from the plant in the ſummer; but it puts out freſh ones in the autumn, and continues green all winter.

and Mallow-leaved Scarlet Geranium deſcribed. 2. Mallow-leaved Scarlet *Geranium* is an upright, branching ſhrub, about ten feet high. The leaves are round, kidney-ſhaped, and thick;

they are of a fine green colour on their upper ſurface, hairy underneath, and placed on longiſh footſtalks, without order, on the branches. The flowers grow from the wings of the ſtalks in looſe bunches, and are ſupported by long, ſtiff footſtalks; they are of an elegant bright ſcarlet colour, and continue their appearance from the beginning to the end of ſummer.

Papilionaceous

3. Papilionaceous *Geranium* is an upright, branching ſhrub, about ſix or eight feet high. The leaves are large, angular, ſharp-pointed, rough, and placed on long footſtalks. The flowers have the appearance of the Butterfly kinds: The two upper petals are large, and turn upward, forming the vexillum; whilſt the others are ſmall, reflexed, and ſeem to conſtitute the other parts belonging to the leguminous tribe. They grow in looſe panicles from the ends of the branches, are finely variegated, come out in May, and their time of blow will be ſoon over.

and Birch-leaved Geranium deſcribed.

4. Birch-leaved *Geranium* is a branching ſhrub, about four or five feet high. The leaves are oblong, oval, plane, indented, and unequally ſerrated. The flowers grow from the ſides of the branches on long footſtalks, are large, of a purple colour, and come out in June and July.

Variety.

There is a variety of this ſpecies with broad, indented leaves, and fine red flowers.

Rough-leaved,

5. Rough-leaved *Geranium* hath a ſhrubby, branching ſtalk about a yard high. The leaves are palmated, exceedingly rough, and their edges are cut into many ſegments. The flowers are produced from the upper parts of the branches, in ſmall bunches, in June and July, are of a red colour, and very fragrant in evenings.

Hood-leaved,

6. Hood-leaved *Geranium* is a branching ſhrub, eight or ten feet high. The leaves are roundiſh, indented, and ſo hollowed in the middle as to form the ſhape or figure of an hood: They have many nerves running from the ſtalks to the ſides, and are placed without order, on long footſtalks, on the lower parts of the tree; but towards the top they grow oppoſite. The flowers are produced in panicles from the tops of the branches, are of a purple colour, and there will be a ſucceſſion of them from the beginning of June to the end of ſummer.

Gibbous-ſtalked,

7. Gibbous-ſtalked *Geranium*. The ſtalk is fleſhy, and appears gibbous or ſwoln at the joints: It grows to about a yard high, and ſends forth ſeveral very ſmooth branches. The leaves are double-winged, ſmooth, grey, fleſhy, and are placed oppoſite to each other on ſhort footſtalks. The flowers are produced from the tops of the branches in ſmall cluſters, are of a dark purple colour, come out in June, and continue in ſucceſſion all ſummer. This is one of the *Geraniums* of heightened fragrance in evenings.

Fleſhy-ſtalked,

8. Fleſhy-ſtalked *Geranium*. The ſtalk is very thick, fleſhy, knotted, branching, and grows to about two feet high. The leaves are double-winged, and placed thinly on the branches. The flowers grow from the ends of the branches in ſmall cluſters, are of a white colour, and their petals are remarkably narrow; they come out in May or June, and there will be a ſucceſſion of them until the end of ſummer.

Peltated,

9. Peltated *Geranium*. The ſtalks are ſlender, weak, two or three feet long, and unable to ſupport themſelves in an upright poſition. The leaves are peltated; each is compoſed of five obtuſe, entire lobes, having a ſlender footſtalk faſtened to the middle, in the manner of the handle of a target: They are fleſhy, ſmooth, of a lucid green colour, and an acid taſte; they have a purple circle in the middle, and grow alternately on the branches. The flowers grow from the wings of the ſtalks on long footſtalks, four or five uſually together, and are of a purple colour; the ſucceſſion of blow will continue the greateſt part of the ſummer, and ſometimes the firſt-blown flowers are ſucceeded by ripe ſeeds.

and Sorrel-taſted Geranium deſcribed.

10. Sorrel-taſted *Geranium* is a branching ſhrub, about ſix or ſeven feet high. The leaves are thick fleſhy, oval, oblong, ſmooth, and crenated on their edges; they are of a grey colour, and poſſeſſed of an acid flavour not unlike that of Sorrel. The flowers are produced from the wings of the ſtalks on longiſh footſtalks, three or four uſually growing together, and are of a pale-bluſh colour, with ſome ſtripes of red. The petals are very narrow, and of unequal ſize; they make their appearance early in ſummer, and continue in ſucceſſion until autumn.

Variety.

There is a variety of this ſpecies with ſcarlet flowers.

Horſe-ſhoe Geranium deſcribed.

11. Horſe-ſhoe *Geranium* is a very branching, irregular ſhrub, ſix or eight feet high. The leaves are roundiſh, heart-ſhaped, indented, and poſſeſſed of an elegant purple zone or mark, which from its ſhape is uſually called the Horſe-ſhoe. The flowers are produced from the wings of the ſtalks in largeiſh tufts, and grow upon long footſtalks; they are of a purpliſh-red colour, and continue in ſucceſſion the greateſt part of the ſummer. The leaves of this ſpecies, when bruiſed, ſmell like coddled apples.

Variety.

There is a variety with variegated leaves, which is much admired.

Vine-leaved

12. Vine-leaved *Geranium* is a branching ſhrub, about ſix or ſeven feet high. The leaves are ſhaped like thoſe of the Vine-tree, and when rubbed have a ſtrong odour of Baum. The flowers are produced from the wings of the ſtalks in cloſe tufts, and grow on long, naked footſtalks; they are of a pale-blue colour, and continue in ſucceſſion the greateſt part of the ſummer.

and Capitated or Roſe Geranium deſcribed.

13. Capitated or Roſe *Geranium* is an irregular branching ſhrub, about five feet high. The leaves are roundiſh, heart-ſhaped, divided into three unequal lobes, hairy, waved, and grow alternately on long hairy footſtalks. They emit, when rubbed, the ſtrong odour of dried roſes; which has occaſioned this plant to be diſtinguiſhed by the name of Roſe *Geranium*. The flowers are produced from the tops of the branches in round, cloſe heads; they are of a purpliſh-blue colour, and the plant will afford a ſucceſſion of them the greateſt part of the ſummer.

Culture.

The culture of all the *Geraniums* is exceeding eaſy. They riſe readily from ſeeds; but as thoſe do not often ripen with us, recourſe is uſually had to planting of the cuttings. Theſe will grow, if planted in any of the ſummer months; and in order to have a good crop, let a bed four feet wide be made, and let the length be according to the number of plants you would raiſe. If the ſoil is not naturally rich and light, let the earth be taken away, and ſome good fat mould from the beſt part of the kitchen-garden be put in its room. To every ſixth barrow-full of this mould let there be one of drift ſand; which being compleated, let the cuttings be planted in rows four inches diſtant from each other; then give them a good watering, and hoop the bed, that the cuttings may be protected by mats from the injuries of the ſun. Water them every other day, if you find it neceſſary; every morning cover the bed with mats, whether the ſun ſhine out or not; and every evening let them be taken off, that they may receive all advantages from the dews and air. The cuttings with this management will ſoon take root, and after they have ſhewn good ſigns of growth, let each be planted in its own ſeparate pot, filled with good, light, rich earth; preſerve the ball of earth to each root, give them a good watering, and let the pots be immediately plunged up to the rims in a ſhady well-ſheltered part of the garden. Here they may remain with watering them twice a week until October, when they ſhould be removed into the Green-houſe, and placed where they can have as much ſun and air as poſſible all winter. During that ſeaſon they muſt be watered once a week, which muſt be repeated oftener as the weather gets warmer in the ſpring; and about the middle of May, they may be ſet abroad for the ſummer ſeaſon. Their ſituation ought to be well ſheltered, ſhady, and they ſhould be watered two or three times a week.

As they encreaſe in ſize, they muſt be ſhifted into larger pots; and at every time of doing this, the bottoms muſt be well ſecured with oyſter-ſhells, broken pots, or the like, to prevent the roots ſtriking through the bottoms, which they certainly will do, if not thus guarded againſt; and which will cauſe a violent check, if nothing worſe, when they come to be potted afreſh on their next removal.

The ſhifting of theſe plants ſhould always be performed about the end of May, the end of Auguſt or beginning of September, or both thoſe ſeaſons, as the growth of the plants makes it neceſſary; for they ſometimes will require to be ſhifted twice in a year. At every removal the root muſt not be diſlocated from the old earth, but as large a ſhare of it as poſſible muſt be taken away, to make room for a greater quantity of freſh mould; the outſide fibres next the ſides of the pot muſt be pared off, alſo all mouldy and decayed parts of the roots muſt be taken away. Thus having placed your ſhrubs in the center of each pot, and well filled up the ſides with freſh mould, give the plants a good watering, remove them immediately to a ſhady place, but not under the drip of trees; where having ſtood a fortnight or three weeks, they will have taken good hold of the freſh ſoil, and may then be ſet in places deſigned for them to ſtand for ſhow.

The ſucculent ſtalked kinds will require leſs water from the beginning than the other ſorts, and in winter they ſhould be ſeldom watered: When they are, they ſhould have it by a little at a time; for too much moiſture will cauſe the young branches to mould, rot, and threaten deſtruction to the whole plants; and the more effectually to avoid thoſe dangers, it would be highly proper to place the ſucculent kinds in the glaſs-caſe; where having more freely the ſun and air, they may be kept in good health, and always poſſeſs that pleaſing aſpect which Nature deſigned them to wear.

During the whole courſe of winter and ſummer, all decayed leaves muſt be taken away, as they are obſerved. The more effectually to do this, certain days, at proper intervals, ſhould be ſet apart for this work. Should it be neglected in the winter, when the plants are in the Green-houſe, the air will then ſoon be vitiated by the vapours ariſing from the ſtagnated juices of decaying leaves, and the health of the neighbouring plants will thereby be much endangered. Were it to be neglected in the ſummer, the plants would appear unhealthy and unſightly; or, at leaſt, the aſperſion of Sloven would be beſtowed on the Gardener.

To avoid all theſe evils, therefore, let the plants be conſtantly kept neat, clean, and in good order; for that will be the moſt effectual way of enſuring health to the one, and reputation to the other.

They are all admirably well raiſed from ſeeds, when good ones can be procured. The beſt way will be to ſow them in the ſpring, on a moderate hotbed. When they come up, they ſhould be uſed hardily, and be frequently watered; and when they are of a ſize to remove ſhould be taken up, preſerving a ball of earth to the root, and each ſhould be ſet in its own ſeparate pot. The pots may then be either plunged up to the rims in a ſhady ſituation, or they may be ſet up to the rims in the mould of a ſecond hotbed. This will cauſe their growth to be continued with leſs interruption; and if it is complied with, the plants muſt be hardened by degrees to the open air, that they may be ſet abroad with other tender plants for the remaining part of the ſummer. In the autumn they muſt be removed into the Green-houſe, and their after-management muſt be the ſame as that of the cuttings.

Plants thus raiſed will grow to a larger ſize than any other way, and will for the moſt part be handſomer. They will often produce ſeeds; on which account that method of raiſing them is preferred by moſt, who can have an opportunity of obtaining good ſeeds at the firſt.

Of the Tender Herbaceous *Geraniums* there are, Species.

1. Herbaceous Horſe-ſhoe *Geranium.*
2. *Alchimilla*-leaved *Geranium.*
3. Sweet ſcented *Geranium.*
4. Gooſeberry-leaved *Geranium.*
5. Jagged *Alcea*-leaved *Geranium.*
6. *Althæa*-leaved *Geranium.*
7. Betony-leaved *Geranium.*
8. Prolifick *Geranium.*
9. Lobated *Geranium.*
10. *Geranium Triſtè.*

1. Herbaceous Horſe-ſhoe *Geranium.* This plant hath ſeveral weak, ligneous, rough ſtalks, which, if not ſupported, will lie on the ground. The leaves are heart-ſhaped, three-lobed, indented, and are marked with a purple circle, like thoſe of the Shrubby Horſe-ſhoe *Geranium.* The flowers grow, ſeveral together, on long, ſmooth footſtalks; they are of a purple colour, and make their appearance great part of the ſummer. Herbaceous Horſe-ſhoe,

2. *Alchimilla*-leaved *Geranium.* The ſtalks of this plant are herbaceous, grow to about a foot and an half long, and unleſs ſupported will lie on the ground. The leaves are roundiſh, palmated, very hairy, and their edges are cut into many ſegments. The flowers grow many together on long footſtalks; their colour is white, and they continue in ſucceſſion all ſummer. There is a variety with a blueiſh flower, and another with a dark circle in the middle of the leaves. There is no difference with reſpect to their time of flowering, and they all produce plenty of good ſeeds for increaſe. Alchimilla-leaved,

3. Sweet-ſcented *Geranium.* The ſtalk of this plant is very ſhort, thick, fleſhy, ſlender, about a foot long, divides into ſeveral ſhort heads, which ſupport the leaves and flowers, and unleſs ſupported will lie on the ground. The leaves grow many together, from theſe heads, on ſeparate footſtalks; they are heart-ſhaped, ſoft, downy, and are, of all the *Geraniums*, the moſt ſtrongly ſcented. The flowers are produced from the ſides of the ſtalks, growing, three or four together, on ſlender footſtalks; they are ſmall, white, and appear moſt of the ſummer months. 'Tis from the fragrance of the leaves that this plant derives its chief value; though they are ſo ſtrongly ſcented as to be too powerful, and even diſagreeable to Sweet-ſcented,

many. The predominant flavour in them is that of Aniſeed.

Gooſeberry-leaved,

4. Gooſeberry-leaved *Geranium*. The ſtalks of this plant are proſtrate, ſlender, ſmooth, and grow to about a foot and an half long. The leaves are ſmall, heart-ſhaped, roundiſh, and crenated on their edges. The flowers grow from the ſides of the ſtalks, at the joints, on ſhort, ſlender footſtalks; they are ſmall, of a reddiſh colour, grow two or three together on a footſtalk, and continue in ſucceſſion all ſummer. This ſort produces plenty of ſeeds for increaſe.

Jagged Alcea-leaved,

5. Jagged *Alcea*-leaved *Geranium*. The ſtalks of this plant are herbaceous, hairy, rough, and grow to about a yard in length. The leaves are compoſed of three lobes, having their edges jagged, or cut into many ſegments. The flowers grow two or three together on a footſtalk from the joints; they are of a reddiſh colour, and continue in blow for many months.

Althæa-leaved,

6. *Althæa*-leaved *Geranium*. The ſtalks of this plant are weak, herbaceous, and unleſs ſupported lie on the ground. The leaves are heart-ſhaped, oval, plicated, ſinuated, crenated on their edges, and have the ſmell of Baum. The flowers grow from the ſides of the ſtalks at the joints, in the ſummer, and continue their ſucceſſion until autumn.

and Betony-leaved Geranium deſcribed.

7. Betony-leaved *Geranium*. The root of this plant is large, tuberous, and of a brown colour; at the top of it the leaves form a beautiful head, and among them the flower-ſtalks ariſe. The radical leaves are heart-ſhaped, lobed, and marked with many black ſpots; the upper leaves alſo are ſpotted, but are much ſmaller than the others, and are doubly winged. The flowers grow ſeveral together on long, ſlender footſtalks.

The varieties of them are,

Varieties.

The Fleſh-coloured.
The Crimſon.
The Large Striated.
The White.

They come out in ſummer, and continue the ſucceſſion of blow for a long time.

Prolifick Geranium deſcribed.

8. Prolifick *Geranium*. This ſpecies admits of many varieties, which are ſo different in themſelves, that in the former edition of the *Species Plantarum* ſeveral of them ſtood with diſtinct titles, as ſeparate ſpecies.

The principal of theſe varieties are,

Varieties.

The Proliferous Turbinated Rooted *Geranium*.
The Pinnated Proliferous *Geranium*.
The Auriculated *Geranium*.
The Tuberous-rooted Long-leaved Proliferous *Geranium*.
The Turnep-rooted Fleſhy-leaved *Geranium*.

The roots of all of them are large, fleſhy, and tuberous in a greater or leſs degree; ſome are thick and long, others round like a turnep, and others turbinated. The leaves of the firſt ſort are divided in the pinnated way into a few narrow parts. The leaves of the ſecond are completely pinnated, and the lobes are oval. The leaves of the third are oblong, or elſe cut into three parts, and they uſually have two ſmall ears at their baſe. The leaves of the fourth are very long, ſimple, oblong, and ſpear-ſhaped. The leaves of the fifth are very fleſhy, haſtated, and oval. The flower-ſtalks of all of them riſe immediately from the roots among the leaves; they ſupport a compound umbel of flowers, which in the different varieties are of different colours. Some are white, others crimſon, others red, ſome purple; others again are of a reddiſh-purple, and poſſeſs the different tinges of theſe colours blended together in a moſt admirable manner. They come out in the ſummer, and many of them continue their bloom late in the autumn.

Lobated,

9. Lobated *Geranium*. The root of this plant is roundiſh, large, and fleſhy. The leaves are lobed, hairy, crenated, rough, and riſe immediately from the root on long, thick, hairy footſtalks. Among theſe the flower-ſtalks ariſe; they are moderately thick, hairy, and each ſupports a tuft of beautiful flowers. They are of different varieties, ſome being red, others whitiſh, and ſome red tipped with yellow. This ſpecies alſo admits of varieties with reſpect to the leaves; ſome are rough and hairy to a great degree; ſome pinnatifid; while others have ears at their baſe. But the moſt general ſorts of this ſpecies have their leaves lobed in the manner of ſome of thoſe of our Vines, are ſlightly hairy, and crenated on their edges.

and Geranium Triſte deſcribed.

10. *Geranium Triſte.* The root of this plant is tuberous. The leaves are double-winged, hairy, and grow immediately from the root on long, hairy footſtalks. Among theſe riſes the flower-ſtalk, which is pretty thick, bifid, and hairy. The flowers grow in tufts at the end of each ſtalk; they are ſmall, of a ſad pale yellowiſh-green colour, marked with duſky-purple ſpots; and in evenings are very fragrant.

Culture.

All the Herbaceous ſorts are beſt propagated by ſowing the ſeeds; they moſtly ripen freely here, but ſuch as do not ſhould be procured from Africa, if poſſible. They ſhould be ſown in the ſpring, on a moderate hotbed, covered with good, light, mellow earth. They ſhould be covered about a quarter of an inch deep, and all the laws reſpecting the management of ſuch hotbeds and their plants muſt be obſerved. Your plants will thus ſoon come up, and in about a month's time afterwards they will be fit to remove. They ſhould then be carefully taken up, with a ball of earth to each root, and planted ſeparately in pots filled with the like kind of rich, mellow earth. They ſhould then have a moderate warmth, on another hotbed, to facilitate their taking root, and be watered, and ſhaded from the ſun. In this bed they may remain all ſummer, taking off the glaſſes, and wholly expoſing them to the open air; or they may be removed into the Kitchen-garden, plunging them up to the rims in a ſhady part of it. In either caſe, the weeds muſt be picked out as they ariſe, and water muſt be afforded them in dry weather. With this management they will do very well until October, when they ſhould be placed in the Green-houſe, or under an hotbed-frame, for their winter lodgings. In the ſpring they may be ſet abroad with other tender plants, and the ſummer following the greateſt part of them will flower.

They are alſo eaſily propagated by parting of the roots. The beſt time for this is Auguſt. Every off-ſet ſhould be ſet in a ſeparate pot filled with light, mellow earth. They ſhould then be plunged up to the rims in a ſhady place; and when they have taken root, ſhould be removed to a place where they can receive the morning ſun. Here they may ſtand until October, when they ſhould be removed into ſhelter, as the others.

In dividing the roots of the tuberous ſorts, nothing more need be obſerved than to take off a piece with an eye or bud to it; ſuch piece will readily grow, and become a good plant. Moſt of the tuberous-rooted kinds are remarkably finely ſcented in the night, which occaſions their being uſually called, Night-ſcented *Geraniums*.

Titles.

The titles of the Shrubby *Geraniums.*

Fulgidum. 1. Fulgid or *Alcea*-leaved Scarlet *Geranium* is titled, *Geranium calycibus monophyllis, foliis tripartitis inciſis: intermediâ majore, umbellis geminis, caule fruticoſo carnoſo.* Dillenius calls it, *Geranium Africanum, folio alceæ, flore coccineo fulgidiſſimo.* It grows naturally in Æthiopia.

Inquinans. 2. Mallow-leaved Scarlet *Geranium* is titled, *Geranium calycibus monophyllis, foliis orbiculato-reniformibus tomentoſis crenatis integriuſculis, caule fruticoſo.* Dillenius calls it, *Geranium Africanum arboreſcens, malvæ folio pingui, flore coccineo*; and Martin, *Geranium Africanum arboreſcens, malvæ folio plano lucido, flore elegantiſſimo kermeſino.* It grows naturally in Africa.

Papilionaceum. 3. Papilionaceous *Geranium* is titled, *Geranium calycibus monophyllis, corollis papilionaceis: alis carinâque minutis, foliis angulatis, caule fruticoſo.* Dillenius calls it, *Geranium arboreſcens, flore veluti dipetalo, eleganter variegato*; and Martin, *Geranium Africanum arboreſcens, malvæ folio mucronato, petalis florum inferioribus vix conſpicuis.* It is a native of Africa.

Betulinum. 4. Birch-leaved *Geranium* is titled, *Geranium calycibus monophyllis, foliis ovatis inæqualiter ſerratis planis, caule fruticoſo.* Ray calls it, *Geranium fruticoſum, betulæ folio, Africanum*; Burman, *Geranium fruteſcens, folio ſubrotundo dentato, flore purpureo*; alſo, *Geranium fruticoſum, folio lato dentato, flore magno rubente.* It is a native of the Cape of Good Hope.

Scabrum. 5. Rough-leaved *Geranium* is titled, *Geranium calycibus monophyllis, foliis cuneiformi-trifidis multifidiſve ſcabris, caule fruticoſo.* It grows at the Cape of Good Hope.

Cucullatum. 6. Hood-leaved *Geranium* is titled, *Geranium calycibus monophyllis, foliis cucullatis dentatis, caule fruticoſo.* Dillenius calls it, *Geranium Africanum arboreſcens, foliis cucullatis anguloſis*; Herman, *Geranium Africanum arboreſcens, ibiſci folio rotundo, carlinæ odore*; and Martin, *Geranium Africanum arboreſcens, ibiſci folio anguloſo, floribus amplis purpureis.* It grows in Africa.

Gibbosum. 7. Gibbous-ſtalked *Geranium* is titled, *Geranium calycibus monophyllis, caule fruticoſo geniculis carnoſis gibboſis, foliis ſubpinnatis oppoſitis.* In the *Hortus Upſal.* it is termed, *Geranium calycibus monophyllis, geniculis nodoſis, foliis duplicato-pinnatifidis.* Van Royen calls it, *Geranium calycibus monophyllis, caule carnoſo nodoſo: internodiis filiformibus, foliis lobato-pinnatifidis*; and Herman, *Geranium Africanum noctu olens tuberoſum & nodoſum, aquilegiæ foliis.* It grows naturally in Africa.

Carnosum. 8. Fleſhy-ſtalked *Geranium* is titled, *Geranium calycibus monophyllis, caule fruticoſo: articulis carnoſo-gibboſis, foliis pinnatifidis laciniatis, petalis linearibus.* Dillenius calls it, *Geranium Africanum carnoſum, petalis anguſtis albicantibus.* It grows naturally in Æthiopia.

Peltatum. 9. Peltated *Geranium* is titled, *Geranium calycibus monophyllis, foliis quinquelobis integerrimis glabris peltatis, caule fruticoſo.* Commeline calls it, *Geranium Africanum, foliis inferioribus aſari, ſuperioribus ſtaphidis agriæ maculatis ſplendentibus & acetoſæ ſapore.* It grows naturally in Africa.

Acetosum 10. Sorrel-taſted *Geranium* is titled, *Geranium calycibus monophyllis, foliis glabris obovatis carnoſis, crenatis, caule fruticoſo.* Commeline calls it, *Geranium Africanum fruteſcens, folio craſſo & glauco, acetoſæ ſapore.* It grows in Africa.

Zonale 11. Horſe-ſhoe *Geranium* is titled, *Geranium calycibus monophyllis, foliis cordato-orbiculatis inciſis zonâ notatis, caule fruticoſo.* Commeline calls it, *Geranium Africanum arboreſcens, alchemillæ hirſuto folio, floribus rubicundis.* It grows in Africa.

Vitifolium. 12. Vine-leaved *Geranium* is titled, *Geranium calycibus monophyllis, foliis adſcendentibus lobatis pubeſcentibus, caule fruticoſo.* Dillenius calls it, *Geranium Africanum arboreſcens, vitis folio, odore meliſſæ.* It grows naturally in Africa.

13. Capitated or Roſe *Geranium* is titled, *Geranium calycibus monophyllis, foliis lobatis undatis villoſis, caule fruticoſo.* In the *Hortus Cliffort.* it is termed, *Geranium calycibus monophyllis, floribus capitatis, foliis cordatis lobatis crenatis piloſis.* Herman calls it, *Geranium Africanum fruteſcens, malvæ folio laciniato odorato.* It grows naturally in Africa. Capitatum.

The Titles of the Tender Herbaceous *Geraniums.*

1. Herbaceous Horſe-ſhoe *Geranium* is titled, *Geranium calycibus monophyllis, foliis cordatis ſublobatis crenato-dentatis glabris ſubciliatis, caule ſubherbaceo.* Burman calls it, *Geranium calycibus monophyllis, foliis peltatis rotundatis anguloſis dentatis glabris, caule fruticoſo*; Ray, *Geranium Africanum, hederæ arboreæ folio, flore purpureo*; alſo, *Geranium Africanum, floribus rubellis, foliis glabris cordiformibus ſerratis circulo purpureo inſcriptis.* It is a native of the Cape of Good Hope. Tabulare

2. *Alchimilla*-leaved *Geranium* is titled, *Geranium calycibus monophyllis, foliis orbiculatis palmatis inciſis piloſis, caule herbaceo.* In the *Hort. Cliffort.* it is termed, *Geranium calycibus monophyllis longiſſimis ſeſſilibus, fructu aſſurgente, foliis palmatis crenatis.* Herman calls it, *Geranium Africanum, alchimillæ hirſuto folio, floribus albidis.* It grows naturally in Africa. Alchemilloides.

3. Sweet ſcented *Geranium* is titled, *Geranium calycibus monophyllis, caule carnoſo breviſſimo, ramis herbaceis longis, foliis cordatis.* Dillenius calls it, *Geranium Africanum humile, folio fragrantiſſimo molli.* It grows naturally in Africa. Odoratissimum.

4. Gooſeberry-leaved *Geranium* is titled, *Geranium calycibus monophyllis, foliis cordatis ſubrotundis lobatis crenatis, caule herbaceo lævi.* Van Royen calls it, *Geranium pedunculis bifloris, foliis cordatis inciſis glabris, caulibus filiformibus procumbentibus.* Herman calls it, *Geranium Africanum, uvæ criſpæ folio, calycibus procumbentibus, floribus exiguis rubellis.* It grows in Africa. Grossularoides.

5. Jagged *Alcea*-leaved *Geranium* is titled, *Geranium calycibus monophyllis, foliis ternatis trifidis laciniatis, caule herbaceo hirto.* Burman calls it, *Geranium pedunculis multifloris, calycibus pentaphyllis, foliis lyrato-multifidis, cotyledonibus lobatis*; Ray, *Geranium Africanum hirſutum, uvæ criſpæ folio laciniato, flore duabus maculis purpureis*; and Martin, *Geranium folio alceæ tenuiter laciniato.* It grows naturally at the Cape of Good Hope. Alceoides.

6. *Althæa*-leaved *Geranium* is titled, *Geranium calycibus monophyllis foliis cordato-ovatis plicatis ſinuatis crenatis, caule herbaceo proſtrato.* Boerhaave calls it, *Geranium, folio althææ, Africanum, odore meliſſæ.* It grows naturally in Africa. Althaoides.

7. Betony-leaved *Geranium* is titled, *Geranium calycibus monophyllis, foliis bipinnatis: inferioribus cordatis lobatis, caule herbaceo, calycibus ſtrigoſis.* Herman calls it, *Geranium Africanum, betonicæ folio laciniato & maculato, floribus incarnatis*; alſo, *Geranium Africanum tuberoſum, anemones folio, flore incarnato*; and Breynius, *Geranium Æthiopicum, myrrhidis folio 3, flore magno ſtriato.* It grows naturally at the Cape of Good Hope. Myrrhifolium.

8. Prolifick *Geranium* is titled, *Geranium calycibus monophyllis, ſcapis radicalibus, umbellâ compoſitâ.* Commeline calls it, *Geranium Africanum, myrrhidis folio, flore albicante, radice rapaceâ.* The varieties have titles ſtrongly expreſſive of their properties, in different authors. Thus Burman calls one ſort, *Geranium calycibus monophyllis, foliis pinnatim diviſis, foliis tri & quinque-partitis linearibus, radice turbinatâ.* The Pinnated-leaved, in the Prolificum.

former edition of the *Species Plantarum*, ſtands as a diſtinct ſpecies, with the title, *Geranium calycibus monophyllis, foliis pinnatis, foliolis ovatis.* The Auriculated-leaved, (*Geranium calycibus monophyllis, foliis oblongis integris tripartitiſque, pedunculis radicalibus*) Commeline calls, *Geranium Africanum, foliis plerumque auritis, floribus ex rubro purpuraſcentibus.* The Long-leaved is termed by Burman, *Geranium calycibus monophyllis, foliis ſimplicibus oblongo-lanceolatis, radice tuberoſâ*; and the Fleſhy-leaved, *Geranium calycibus monophyllis, foliis ovato-haſtatis carnoſis, radice rapaceâ.* This ſpecies in all its varieties is found growing at the Cape of Good Hope.

Lobatum 9. Lobated *Geranium* is titled, *Geranium calycibus monophyllis, caule truncato, ſcapis ſubradicalibus, umbellâ compoſitâ.* Van Royen calls it, *Geranium calycibus monophyllis: tubis longiſſimis ſubſeſſilibus, radice ſubrotundâ, foliis lobatis crenatis hirſutis.* Commeline calls it, *Geranium Africanum noctu olens tuberoſum, vitis folio hirſutis*; Burman, *Geranium calycibus monophyllis, foliis ovatis laciniatis rugoſis, radice turbinatâ*; alſo, *Geranium calycibus monophyllis, foliis duplicato-pinnatifidis: laciniis linearibus obtuſis, radice turbinatâ.* It grows naturally at the Cape of Good Hope.

10. *Geranium Triſte* is titled, *Geranium calycibus monophyllis ſeſſilibus, ſcapis bifidis monophyllis.* In the *Hort. Cliff.* it is termed, *Geranium calycibus monophyllis: tubis longiſſimis ſubſeſſilibus, radice ſubrotundâ.* Commeline calls it, *Geranium triſte*; and Breynius, *Geranium noctu olens Æthiopicum, radice tuberoſâ, foliis myrrhidis latioribus & anguſtioribus.* It is a native of the Cape of Good Hope. Triste.

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CHAP. LXXXI.

GLADIOLUS, CORN-FLAG.

EXCEPT the ſorts already deſcribed for the Perennial Flower-garden, the ſpecies of the *Gladiolus* are natives of ſome of the hotteſt parts of the world: They will do, however, very well with us in a good Green-houſe; and the ſpecies

Species. for this purpoſe are,

1. Spiked-flowering *Gladiolus.*
2. The Cape *Gladiolus.*
3. The Æthiopian Broad-leaved *Gladiolus.*
4. Æthiopian Quadrangular-leaved *Gladiolus.*
5. African Narrow-leaved *Gladiolus.*
6. African Tuberous-rooted *Gladiolus.*
7. Æthiopian Imbricated-ſpiked *Gladiolus.*

Spiked-flowering, 1. Spiked-flowering *Gladiolus* has a ſmall, browniſh root, from which iſſue many very narrow leaves, of a light-green colour. Among theſe ariſes the flower-ſtalk, which is ſingle; and the top of it is ornamented with the flowers, which form a beautiful ſpike. It varies in its time of blow by different management, and ſeldom produces good ſeeds in theſe parts.

Cape, 2. Cape *Gladiolus*. The root of this plant is covered with a kind of netted brown bark: From this iſſue the leaves, which are ſword-ſhaped, moderately long, and embrace each other at their baſe. Between theſe riſes the flower-ſtalk, the top of which is ornamented with a ſpike of flowers, having broad, lateral petals. It is at preſent a very ſcarce plant in theſe parts.

Æthiopian Broad-leaved, 3. Æthiopian Broad-leaved *Gladiolus*. The root of this plant is a round, compreſſed, tunicated bulb. From this iſſue the leaves, which are enſiforme, and are plaited or furrowed lengthways; they will grow to about half a foot long, are hairy, and embrace each other at their baſe. Between theſe riſes the flower-ſtalk, which is naked, and will grow to about eight inches high. The top of it produces the flowers in a kind of cluſter; their colour is a deep blue, though there are ſome that are white, ſtained with violet, and they ſpread open in an agreeable manner. They will be in full blow in May, and ripen their ſeeds in July.

4. Æthiopian Quadrangular-leaved *Gladiolus*. This plant hath an oval, compreſſed bulb. The leaves are very long and narrow; two of them uſually ſpring from the root, and their figure is almoſt enſiforme; they have longitudinal furrows, and the mid-rib ſtands out in ſuch a manner as to form the appearance of a four-cornered leaf. Theſe cloſely ſurround the flower-ſtalk, between which it ariſes; it is round, ſlender, and will grow to almoſt two feet high. At the top of it ſtand the flowers, whoſe number is only two; they grow on the ſame ſide of the ſtalk, are bell-ſhaped, and placed at about two inches diſtance from each other; their colour is a pale-yellow ſlightly ſtriped with purple. They will be in blow in June, but do not always produce good ſeeds here. Æthiopian Quadrangular leaved,

5. African Narrow-leaved *Gladiolus*. The root of this plant is a round, ſmooth bulb, covered with a thin, blackiſh ſkin. The leaves are narrow, and embrace each other at their baſe; there are ſeldom more than two or three from a bulb, and they come up in the autumn. The flower-ſtalk does not riſe before the ſpring; it comes up between the leaves, and will grow to be near two feet high. The flowers grow at the top at certain diſtances; there are ſeldom more than about three, and they are always arranged on one ſide of the ſtalk; they grow in an upright poſition, have very long tubes, the ground-colour is a very bad red, and the ſegments of the petals are marked with purple, or a deep-red; they flower in May, but will not always produce good ſeeds here. African Narrow-leaved,

6. African Tuberous-rooted *Gladiolus*. This is a very large growing plant. The root is tuberous, and from it iſſue ſeveral long green leaves. The ſtalk is branching, and the flowers are collected into ſmall heads; their colour is blue, they grow on ſhort footſtalks, but ſeldom produce good ſeeds with us. African Tuberous-rooted,

7. Æthiopian Imbricated-ſpiked *Gladiolus*. The leaves of this ſpecies are long, narrow, and of a light-green colour. Among theſe ariſes the flower-ſtalk, the top of which is ornamented with Æthiopian Imbricated-ſpiked,

a large quantity of ſmall flowers; they are arranged in an imbricated manner, and form a ſingular and very beautiful ſpike. This ſpecies hath a different appearance from any of the others; and is a plant worthy of good management; for the flowers may be brought to ſhew themſelves to greater perfection.

Culture. All theſe ſorts are eaſily propagated by offſets. The beſt time for taking them off is on the decay of the leaves; at which time ſome good light mould ſhould be provided, and the roots ſhould be ſet in pots filled with this light earth. As ſoon as this is done, they ſhould be removed into the ſhade, where they may ſtand all ſummer; in October they ſhould be removed into the Green-houſe, with other plants of that kind. If there is no conveniency of a Green-houſe, they will do very well if placed in a room all winter, or under an hotbed frame; for all the protection they require, is to be ſcreened from the ſeverity of our froſts.

The beſt plants are always raiſed by ſeeds. When the ſeeds are perfectly ripe, they ſhould be gathered with care, and laid by in a dry, airy place until the autumn. At this time they ſhould be ſown in pots or boxes filled with light, freſh earth; the ſeeds ſhould not be ſowed too cloſe, and about half an inch of the ſame light mould ſhould be ſifted over them. At the approach of bad weather, the pots ſhould be placed under an hotbed-frame; but whenever the weather is mild and fine, the glaſſes ſhould be taken off, and they ſhould alſo have as much ſun as poſſible all winter. In the ſpring the plants will come up; at which time keep them guarded from the ſpring-froſts, but let them have as much air as poſſible. When the danger of froſt is over, plunge the pots up to the rims in a ſhady part of the garden, and there let them ſtand all ſummer, with the uſual care of weeding, and of watering with this precaution, not to give it in too great plenty, but ſparingly, and as the leaves decay wholly to omit it. On the decay of the leaves; the roots may be taken up; but if the ſeeds were ſown thinly in the pots, it would be as well to let them ſtand until the next year before they are removed. When this is done, in the autumn, ſift over them about half an inch of fine mould. In October remove them into the Green-houſe, or ſet them under the frame as before. With the uſual care they muſt be treated all winter, and the ſummer following the roots may be planted in ſeparate pots, in order for flowering.

Titles. 1. Spiked-flowering *Gladiolus* is titled, *Gladiolus foliis linearibus, caule ſimpliciſſimo, floribus ſpicatis.* It grows naturally in Africa. Spicatus.

2. The Cape *Gladiolus* is titled, *Gladiolus foliis enſiformibus petalis lateralibus latiſſimis.* Plukenet calls it, *Siſyrinchium viperarum.* It grows naturally at the Cape of Good Hope. Alatus.

3. Æthiopian Broad-leaved *Gladiolus* is titled, *Gladiolus foliis enſiformibus, plicatis, villoſis, ſcapo laterali, corollis regularibus.* Breynius calls it, *Siſyrinchium latifolium, floribus patentibus vix difformibus.* It grows naturally in Æthiopia. Plicatus.

4. Æthiopian Quadrangular-leaved *Gladiolus* is titled, *Gladiolus foliis lineari-cruciatis, corollis campanulatis.* Trew calls it, *Gladiolus bifolius & biflorus, foliis quadrangulis.* It grows naturally in Æthiopia. Tristis.

5. African Narrow-leaved *Gladiolus* is titled, *Gladiolus foliis linearibus, floribus diſtantibus, corollarum tubo limbis longiore.* Van Royen calls it, *Gladiolus caule ſimpliciſſimo, foliis linearibus, floribus alternis.* It is a native of Africa. Angustus.

6. African Tuberous-rooted *Gladiolus* is titled, *Gladiolus caule ramoſo, capitulis pedunculatis.* It grows in Africa. Capitatus.

7. Æthiopian Imbricated-ſpiked *Gladiolus* is titled, *Gladiolus foliis linearibus, ſpicâ diſtichâ imbricatâ.* It grows common in Africa. Alopecuroides.

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CHAP. LXXXII.

GLOBULARIA, BLUE DAISY.

AMONG the hardieſt ſorts of Green-houſe plants may be ſtationed Shrubby *Globularia*, or *Alypium* of Montpellier.

The plant deſcribed. The ſtem of this plant is woody, hard, grows to about two feet high, and ſends forth ſeveral thin, woody branches, which are covered with a ſmooth, reddiſh bark. The leaves are ſpear-ſhaped, frequently indented in three parts at the extremity, of a thickiſh conſiſtence, and grow irregularly on the branches. The flowers come out from the ends and ſides of the branches in ſmall heads; they are of a blue colour, appear in ſummer, but are not followed by ripe ſeeds in England. There is a variety of this plant with purpliſh-coloured flowers. The whole plant is cathartic and emetic, and is frequently given in dropſies.

Culture. This ſpecies is propagated by planting the cuttings or ſlips in Auguſt, in pots filled with light earth. The cuttings muſt be then well-watered, and the pots muſt be plunged up to the rims cloſe together in the common mould of the garden; they muſt next be hooped, and covered with mats; and if watering is duly granted them, they will ſoon ſtrike root. When this is effected, the mats muſt be taken off by degrees; the pots, in October, ſhould be ſet under a warm hedge, where they may remain until November, when they may be removed into the Green-houſe with the hardieſt of the plants, and be treated like them.

When a ſufficient ſtock of theſe plants is obtained, a ſhare may be ſet abroad in ſome warm, well-ſheltered place; for they are hardy enough to endure the cold of our common winters very well.

Titles. This ſpecies is titled, *Globularia caule fruticoſo, foliis lanceolatis tridentatis integriſque.* Tournefort calls it, *Globularia fruticoſa, myrti folio tridentato*; Caſpar Bauhine, *Thymelæa foliis acutis, capitulo ſucciſæ*; and John Bauhine, *Alypium Monſpelienſium, ſ. Frutex terribilis.* It is a native of the South of France, Italy, and Spain. Alypum.

CHAP. LXXXIII.

GNAPHALIUM, CUDWEED.

Species.

THE Green-houſe plants of this genus are,

1. Large Flowered Cudweed, or Eternal Flower.
2. Heath-leaved Goldilocks, or Cudweed.
3. Round-leaved Goldilocks, or Cudweed.
4. Indented-leaved Goldilocks, or Cudweed.
5. Serrated-leaved Cudweed.
6. Tree Cudweed.
7. Coronated Cudweed.
8. Two-coloured Cudweed.
9. Snowy Cudweed.
10. Prickly *Gnaphalium*, or Cudweed.
11. Spreading African Cudweed.
12. Cylindrical *Gnaphalium*.
13. Ruddy African *Elichryſum*.
14. Cymoſe *Elichryſum*.
15. Imbricated Æthiopian Cudweed.
16. Reticulated-leaved Æthiopian Cudweed.
17. Oriental Eternal Flower.
18. Sweet-ſcented Eternal Flower.

Deſcription of Large-flowered Cudweed or Eternal Flower,

1. Large Flowered Cudweed, or Eternal Flower. The ſtalks are ligneous, woolly, and about two feet high. The lower leaves are roundiſh, but thoſe on the upper parts of the plant are narrow, and ſharp-pointed; they are downy on both ſides, trinervous, and embrace the ſtalks with their baſe. The flowers terminate the ſtalks in roundiſh bunches; their cups are very large, of a ſilvery white colour, and ſhining; they ſhew themſelves in perfection in July and Auguſt, at which time, before they are too ripe, they ſhould be gathered for keeping.

Heath-leaved Goldilocks or Cudweed,

2. Heath-leaved Goldilocks, or Cudweed. The ſtalks are woody, divide into many branches, and grow to about two feet high. The leaves are awl-ſhaped, roundiſh, taper, naked, downy underneath, and grow together in cluſters. The flowers are produced from the ends of the branches in roundiſh bunches; the cups are of an iron colour on their outſide, but white within; they are moderately large, and look beautiful after being gathered ſome months.

Round-leaved Goldilocks or Cudweed,

3. Round-leaved Goldilocks, or Cudweed. The ſtalks are woody, and divide into ſeveral branches, which are covered with a whitiſh bark. The leaves are nearly orbicular, entire, downy underneath, and grow on footſtalks. The flowers are produced in cluſters from the ends of the branches; they ſhew themſelves in June, and often continue in ſucceſſion until the end of ſummer. There is a variety of this plant with white, and another with yellowiſh flowers.

Indented-leaved Goldilocks or Cudweed,

4. Indented-leaved Goldilocks, or Cudweed. The ſtalks are woody, branching, and covered with a whitiſh bark. The leaves are wedge-ſhaped, obtuſe, ſeſſile, downy underneath, and indented in three parts. The flowers form a ſimple corymbus at the ends of the branches; they are of a golden-yellow colour, and appear great part of the ſummer.

and Serrated-leaved Cudweed,

5. Serrated-leaved Cudweed. The ſtalks are ſhrubby, divide into a few branches near the ground, and grow to about a yard high. The leaves are oblong, ſpear-ſhaped, acute, ſerrated, ſoft to the touch, and embrace the ſtalks with their baſe. The flowers are produced in ſmall bunches from the upper parts of the plant; they are of an iron colour, and ſhew themſelves great part of the ſummer.

Tree,

6. Tree Cudweed. The ſtalks of this ſpecies are woody, branching, and grow to about four or five feet high. The leaves are narrow, ſmooth on their upper ſide, ſeſſile, and have revolute borders. The flowers are produced in roundiſh bunches from the upper parts of the plant; they are of a pale-yellow colour, and ſhew themſelves in July and Auguſt.

Coronated,

7. Coronated Cudweed. The ſtalks of this ſpecies are ligneous, and divide into a few branches, which are hairy, and covered with a whitiſh, downy bark. The leaves are oblong, ſpear-ſhaped, thick, very downy, and ſit cloſe, having no footſtalks. The flowers are produced in compound bunches from the ends and ſides of the branches; they ſit cloſe, are large, round, radiated, of a ſnowy-white colour, and ſhew themſelves great part of the ſummer.

Two-coloured,

8. Two-coloured Cudweed. The ſtalks of this ſpecies are ſlender, ſhrubby, and about two feet high. The leaves are ſpear-ſhaped, ſeſſile, and poſſeſſed of a woolly down on their under-ſide. The flowers, or rather the cups of the flowers, which are the chief parts regarded in this tribe, are of two colours; the interior ſcales are obtuſe, and of a white colour; the lower ones are ſhorter, and of a pale fleſh colour: They ſhew themſelves in June and July, and often in Auguſt and September.

and Snowy Cudweed deſcribed.

9. Snowy Cudweed. The ſtalks are ſlender, ligneous, and divide into numerous weak branches, which unleſs ſupported lie on the ground. The leaves are filiforme, downy, and grow in cluſters. The flowers come out from the ends and ſides of the branches in ſmall bunches; their cups are ſmall, downy, and of a ſnowy-white colour.

Prickly Gnaphalium deſcribed.

10. Prickly *Gnaphalium*. Of this ſpecies there are numerous varieties, differing in ſome reſpect or other: Such as,

Varieties.

The Spear Cluſtered-leaved,
The Juniper-leaved,
The Stœchas-leaved,
The Savory-leaved,
The Short-leaved, &c.

The ſtalks of all theſe ſorts are ligneous, and of different heights in the different varieties. The leaves in general are narrow, rigid, and ſharp or prickly-pointed. The flowers are produced in compound umbels; the cups are cylindrical, and each contains about three flowers; their colour is white, and their ſize differs in the different ſorts.

Spreading African Cudweed deſcribed.

11. Spreading African Cudweed. The ſtalks of this plant are herbaceous, and ſend forth ſeveral patent branches, which ſpread themſelves every way. The leaves are oblong, ſpatulated, downy, and embrace the ſtalk with their baſe. The flowers come out in round bunches from the ends and ſides of the branches; their colour is white, and they appear great part of the ſummer. There is a variety of this ſpecies with yellow flowers.

Cylindrical Gnaphalium deſcribed.

12. Cylindrical *Gnaphalium.* The ſtalks are herbaceous, branching, and grow to about a foot and an half high. The leaves are oblong, downy, and ſit cloſe to the ſtalk. The flowers are produced in roundiſh bunches from the ends of the branches; they are of a bright-ſcarlet colour, and ſhew themſelves in July and Auguſt.

Ruddy African

13. Ruddy African *Elichryſum.* The ſtalks are ſlender, ligneous, and ſend forth ſeveral ſide-branches near the ground. The leaves are ſpear-ſhaped, narrow, and downy on their underſide. The flowers come out from the ends of the branches in decompound corymbus's; they are at firſt of a bluſh or pale-red colour, but they die afterwards to a golden-yellow colour.

and Cymoſe Elichryſum deſcribed.

14. Cymoſe *Elichryſum.* The ſtalks of this plant are ſlender, divide into many branches near the bottom, and grow to about a yard high. The leaves are ſpear-ſhaped, narrow, of a dark-green colour on their upper ſide, hoary underneath, and half embrace the ſtalks with their baſe. The flowers are produced in longiſh cluſters, from the ends of the branches; they are ſmall, of a yellow colour, and continue in ſucceſſion the greateſt part of the ſummer.

Imbricated Æthiopian

15. Imbricated Æthiopian Cudweed. The ſtalks are herbaceous, tender, and divide into a few branches near the bottom, which grow to about two feet high. The leaves are ſpear-ſhaped, narrow, and downy. The flowers come out in ſmall bunches from the ends of the branches; they are of an iron colour, appear in July and Auguſt, and often in September and October.

and Reticulated-leaved Æthiopian Cudweed deſcribed.

16. Reticulated-leaved Æthiopian Cudweed. The ſtalks of this ſort are herbaceous, ſimple, and about a foot high. The leaves are ſpear-ſhaped, trinervous, curiouſly veined, or wrought-like net-work, and ſit cloſe, having no footſtalks. The flowers terminate each ſtalk in a compound corymbus; they are of a golden-yellow colour, and appear in ſucceſſion the greateſt part of the ſummer.

Culture.

The 17th and 18th ſorts are among the Perennials; they are nevertheleſs Green-houſe plants, and a ſhare muſt always be retained to join with the above collection. They are, with caution, recommended to be planted abroad, on account of the extraordinary beauty they will aſſume in the common mould, and as being tolerably hardy; and with the ſame precaution, if there are plants enough of the foregoing ſorts, a ſhare of all of them may be ſet abroad in warm, well-ſheltered places: Such plants, if they are not deſtroyed by the winter, will grow to be taller, and produce larger and fairer bunches of flowers, than ſuch as have been confined in pots, and kept in the Houſe.

If any of theſe kinds are ventured abroad, the beſt way will be to ſet them in beds, at a proper diſtance from each other, in order to be hooped and well-covered with mats in hard weather.

The Herbaceous kinds are propagated by parting of the roots; all the others are propagated by planting the ſlips, cuttings, or offſets from the roots, in any of the ſummer months. They ſhould be ſet in beds, at about three or four inches aſunder, and be well-watered; the beds muſt be next hooped, to be covered with mats to ſhade the plants at firſt; and the repetition of the watering muſt be made about every other evening: Then your plants will ſtrike root, and grow as readily as Sage. In the autumn, each ſhould be taken up, with a ball of earth to the root, and ſet in a pot, to be houſed for the winter; and if there are plants enough, a ſhare of them may be left in the open ground, to take their chance with the weather, as it ſhall happen.

Titles.

Grandiflorum.

1. Large-flowered Cudweed, or Eternal Flower, is titled, *Gnaphalium fruticoſum, foliis amplexicaulibus ovatis trinerviis utrinque lanuginoſis.* Burman calls it, *Gnaphalium tomentoſum, foliis inferioribus ſubrotundis, ſuperioribus acuminatis.* It grows naturally in Æthiopia.

Teretifolium.

2. Heath-leaved Goldilocks, or Cudweed, is titled, *Gnaphalium fruticoſum ramoſum, corymbis ramoſis, foliis confertis teretiuſculis.* Burman calls it, *Gnaphalium fruteſcens, foliis tenuiſſimis teretibus, ramis creberrimis*; and Plukenet, *Millefolium Æthiopicum ericæ folio, incanum, flore ſpecioſo.* It is a native of Æthiopia.

Petiolatum.

3. Round-leaved Goldilocks or Cudweed, is titled, *Gnaphalium fruticoſum, foliis ovatis integerrimis petiolatis, floribus confertis terminalibus.* Burman calls it, *Gnaphalium tomentoſum, foliis orbiculatis ſubtus incanis.* It is a native of Æthiopia.

Dentatum.

4. Indented-leaved Goldilocks, is titled, *Gnaphalium fruticoſum, foliis cuneiformibus ſeſſilibus dentatis, corymbo ſimplici.* Burman calls it, *Coma aurea incana, foliis obtuſis tridentatis, capitulis oblongis.* It is a native of Æthiopia.

Serratum.

5. Serrated-leaved Cudweed is titled, *Gnaphalium fruticoſum, foliis amplexicaulibus lanceolatis ſerratis, ſupra nudis.* Burman calls it, *Gnaphalium folio oblongo acuto molli, floribus ferrugineis.* It inhabits Æthiopia.

Arboreum.

6. Tree Cudweed is titled, *Gnaphalium fruticoſum, foliis ſeſſilibus linearibus ſupra glabris margine revolutis, floribus ſubcapitatis, pedunculis elongatis.* It grows naturally at the Cape of Good Hope.

Coronatum.

7. Coronated Cudweed is titled, *Gnaphalium fruticoſum, foliis ſeſſilibus lanceolatis, corymbis compoſitis ſeſſilibus, pedunculis aphyllis, calycibus coronatis.* Burman calls it, *Gnaphalium foliis oblongis acutis craſſis & incanis, floribus albis umbellatis.* It is a native of the Cape of Good Hope.

Discolorum.

8. Two-coloured Cudweed is titled, *Gnaphalium fruticoſum, foliis ſeſſilibus lanceolatis, calycibus albis, ſquamis inferioribus incarnatis.* It grows naturally at the Cape of Good Hope.

Niveum.

9. Snowy Cudweed is titled, *Gnaphalium fruticoſum, foliis filiformibus tomentoſis ſubimbricatis, caule ramoſiſſimo.* Burman calls it, *Gnaphalium incanum folio lineari, caule accumbente*; and Plukenet, *Elichryſum Æthiopicum, tenuiſſimis ſtœchadis citrinæ foliis confertis, ramoſiſſimum, comis argenteis.* It reſides in Æthiopia.

Muricatum.

10. Prickly *Gnaphalium,* or Cudweed, is titled, *Gnaphalium fruticoſum, foliis ſubulatis, umbellâ compoſitâ, calycibus ſubtrifloris cylindricis.* In the *Hortus Cliff.* it is termed, *Gnaphalium caule fruticoſo, foliis lanceolatis contortis faſciculatis, calycibus cylindricis longis.* Burman calls it, *Gnaphalium fruticoſum, foliis lanceolatis congeſtis florum calyce tubuloſo*; alſo, *Gnaphalium fruticoſum, foliis rarioribus, capitatum*; alſo, *Gnaphalium fruteſcens, foliolis lanceolatis æqualibus, umbellatum.* Petiver names it, *Argyrocome capitis B. Spei, thymi foliis*; alſo, *Eupatorioides capitis B. Spei, ſaturejæ foliis rigidis*; alſo, *Eupatorioides Capenſis capitatus.* Ray calls it, *Xeranthemum Africanum fruteſcens folio ericæ, ſ. juniperi anguſtiore breviore acuto, floribus conglobatis exiguis albis*; alſo, *Xeranthemum Africanum, foliis brevioribus caneſcentibus, floribus minimis conglobatis albis.* Plukenet ſtiles it, *Xeranthemum ſtœchadis citrinæ foliis rigidis pungentibus, flore albo duriuſculo*; alſo, *Gnaphaloides Æthiopicum fruteſcens, ſtœchadis citrinæ foliis ſpinoſis*; alſo, *Frutex Æthiopicus cineraceus, foliis nepetæ aculeatis, floribus albis coronatis*; and *Elichryſum*

chryſum Æthiopicum fruteſcens, coridis foliis incanis, capitulis parvis glomeratis. It grows naturally in all its varieties in Æthiopia.

Patulum 11. Spreading African Cudweed is titled, *Gnaphalium fruticoſum, foliis amplexicaulibus ſpatulatis; ramis patentibus, corymbis aggregatis.* Boerhaave calls it, *Elichryſum Africanum, folio oblongo tomentoſo caulem amplectente, flore luteo.* It grows naturally in Æthiopia.

Cylindri-cum. 12. Cylindrical *Gnaphalium* is titled, *Gnaphalium herbaceum, foliis ſeſſilibus oblongis tomentoſis, corymbis inæqualibus calycibus; glabris cylindricis ſeſſilibus.* Plukenet calls it, *Gnaphalium Æthiopicum minus ramoſum; capitulis coccineis.* It grows naturally at the Cape of Good Hope.

Rutilans. 13. Ruddy African *Elichryſum* is titled, *Gnaphalium herbaceum, foliis lanceolatis, caule infernè ramoſo, corymbo decompoſito terminatis.* Boerhaave calls it, *Elichryſum Africanum folio oblongo anguſto, flore rubello poſtea aureo.* It grows naturally in Africa.

14. Cymoſe *Elichryſum* is titled, *Gnaphalium herbaceum, foliis lanceolatis trinerviis ſupra glabris, caule infernè ramoſo, racemo terminali.* Boerhaave calls it, *Elichryſum Africanum, folio longo ſubtus incano, ſupra viridi, flore luteo.* It grows naturally in Africa. Cymoſum

15. Imbricated Æthiopian Cudweed is titled, *Gnaphalium herbaceum, foliis lanceolatis tomentoſis, caule ramoſo, ſquamis calycinis reflexis.* Burman calls it, *Gnaphalium incanum anguſtifolium, calycinis ſquamis ferrugineis reflexis.* It reſides in Æthiopia. Imbrica-tum

16. Reticulated-leaved Æthiopian Cudweed is titled, *Gnaphalium herbaceum foliis ſeſſilibus lanceolatis trinerviis nudis reticulato-venoſis.* Breynius calls it, *Chryſocoma Æthiopica, plantaginis folio.* It grows naturally in Æthiopia. Nervi-folium.

17. and 18. The titles of theſe ſpecies are already given among the Perennial plants.

CHAP. LXXXIV.

GNIDIA.

THERE are three ſpecies of this genus, called,

Species,

1. Pine-leaved *Gnidia.*
2. Alternate-leaved *Gnidia.*
3. Oppoſite-leaved *Gnidia.*

Pine-leaved, 1. Pine-leaved *Gnidia.* The ſtalks are woody, branching, and three or four feet high. The leaves are narrow, awl-ſhaped, and come out without order. The flowers ſurround the upper parts of the ſtalks in whorls, and one large bunch terminates the ſtalk; they appear in July and Auguſt, but are rarely ſucceeded by ſeeds in England.

Alternate-leaved, 2. Alternate-leaved *Gnidia.* The ſtalks are ſhrubby, branching, and four or five feet high. The leaves are oval, ſpear-ſhaped, and grow alternately. The flowers are downy, and terminate the branches in ſmall bunches; they appear about the ſame time with the former, and are rarely ſucceeded by ſeeds in theſe parts.

and Oppoſite-leaved Gnidia deſcribed. 3. Oppoſite-leaved *Gnidia.* The ſtalk is woody, and ſends forth ligneous, ſlender branches, which grow erect. The leaves are ſpear-ſhaped, ſmooth, entire, and grow oppoſite to each other. The flowers terminate the branches in cluſters, and appear about the ſame time with the former.

Culture. All theſe are propagated by planting the cuttings, during the ſummer months, in beds of good garden-mould, and covering them cloſe to exclude the air. If a few plants are to be raiſed, bell or hand glaſſes are beſt for that purpoſe, and they muſt be ſhaded; if the bed is large, in order to contain many cuttings, it muſt be hooped, and cloſely covered down with mats; in either caſe, the cuttings muſt be duly watered, and when they commence a growing ſtate, muſt have more air allowed them by degrees, or they will ſoon draw too weak, and be ſpoiled; and this additional allowance muſt be granted them until they have the benefit of the full air. After they have grown in the open air two or three weeks, or longer, if they have made but a poor progreſs, they muſt be taken up, with a ball of earth to each root, and planted ſeparately in pots filled with good mould, be watered, and ſet in a ſhady place until they have taken root; then they ſhould be ſet in a warm part of the garden, to remain there until October, when they ſhould be taken into ſhelter with the hardieſt kinds of Green-houſe plants.

Titles. 1. The firſt ſpecies is titled, *Gnidia foliis ſparſis lineari-ſubulatis, floribus aggregatis terminalibus.* Burman calls it, *Rapunculus foliis nervoſis linearibus, floribus argenteis non galeatis.* It grows naturally in Æthiopia. Pinifolia

2. The ſecond is titled, *Gnidia foliis alternis ovato-lanceolatis.* It grows naturally in Æthiopia. Tomentoſa

3. The third is titled, *Gnidia foliis oppoſitis lanceolatis.* It grows naturally in Æthiopia. Oppoſiti-folia.

Claſs and order in the Linnæan Syſtem. *Gnidia* is of the claſs and order *Octandria Monogynia*; and the characters are,

The characters. 1. Calyx is a monophyllous, bell-ſhaped, coloured perianthium, having a very long, ſlender tube, and a limb divided into four plane parts.

2. Corolla conſiſts of four plane, ſeſſile petals, ſhorter than the calyx, and inſerted into it.

3. Stamina are eight erect, ſetaceous filaments, almoſt as long as the flower, having ſimple antheræ.

4. Pistillum conſiſts of an oval germen, and a ſimple ſtyle (inſerted into one ſide of the germen, and the length of the ſtamina) with a capitated, hiſpid ſtigma.

5. Pericarpium. There is none. The fruit is lodged in the bottom of the calyx.

6. Semen. The ſeed is one, oval, oblique, and acute.

CHAP. LXXXV.

GORTERIA.

Species. OF this genus are four ſpecies, called,

1. Stiff-leaved *Gorteria.*
2. Squarroſe *Gorteria.*
3. Ciliated *Gorteria.*
4. Shrubby *Gorteria.*

Stiff-leaved, 1. Stiff-leaved *Gorteria.* The ſtalk is ſomewhat ligneous, depreſſed, and ſends out a few branches, which lie on the ground. The leaves are ſpear-ſhaped, pinnatifid, narrow, very ſtiff, and of a ſilvery-white colour underneath. The flowers grow ſingly on footſtalks, about four or five inches long; the rays are of a golden-yellow colour, and the middle is an elegant chequered mixture of a black and white colour; they appear in May and June, and ſometimes July; and the ſeeds frequently ripen in Auguſt and September.

Squarroſe, 2. Squarroſe *Gorteria.* The ſtalks are ligneous, branching, and trailing. The leaves are ſpear-ſhaped, decurrent, prickly, and reflexed. The flowers come out at the ends of the branches, where they ſit cloſe; the rays are of a white colour, with a mixture of purple underneath; they appear in June and July, and the ſeeds ripen in September. There is a variety of this ſpecies with ſmall yellow flowers.

Ciliated, 3. Ciliated *Gorteria.* The ſtalk is ligneous, and ſpreading near the ſurface of the ground. The leaves are oblong, imbricated, ciliated, and prickly. The flowers are large, and of a yellow colour; they appear in June and July, and the ſeeds ripen in September.

and Shrubby Gorteria deſcribed. 4. Shrubby *Gorteria.* The ſtalks are woody, thick, and branching. The leaves are oblong, ſpear-ſhaped, indented, prickly, and downy underneath. The flowers are large, and of a golden-yellow colour; they appear in July and Auguſt, and the ſeeds frequently ripen in September.

Culture. Theſe are propagated by planting the cuttings, during any of the ſummer months, in the open ground, obſerving to water and ſhade them until they have taken root. They will readily grow, and in about ſix weeks will be fit to remove; then they muſt be taken up, with a ball of earth to each root, and planted ſeparately in pots filled with light garden mould; they muſt be next ſet in the ſhade, and afterwards in a warmer place, to remain there until the end of October, or later. If the weather is mild, they muſt be taken into the Green-houſe with ſuch plants as require protection from froſts only; and they muſt be ſtationed in ſuch a manner as to receive plenty of free air on all poſſible occaſions, and not be over-topped by other trees, which will occaſion them to become mouldy and rot.

Titles. 1. The firſt ſpecies is titled, *Gorteria ſcapis unifloris, foliis lanceolatis pinnatifidis, caule depreſſo.* In Miller's Dictionary it is named, *Arctotis ramis decumbentibus, foliis lineari-lanceolatis rigidis, ſubtus argenteis.* Vaillant calls it, *Arctotheca foliis rigidis leniter diſſectis*; and Ray, *Anemonoſpermos foliis rigidis tenuiter diviſis ſubtus incanis, flore aureo umbone nigricante.* It grows naturally at the Cape of Good Hope. Ringens.

2. The ſecond is titled, *Gorteria foliis lanceolatis decurrentibus recurvis ciliato-ſpinuloſis, floribus ſeſſilibus.* In the former edition of the *Species Plantarum* it is termed, *Xeranthemum caulibus fruteſcentibus provolutis, foliis ciliatis hirſutis.* Commeline calls it, *Aſter Africanus fruteſcens, ſplendentibus parvis & reflexis foliis.* It grows naturally at the Cape of Good Hope. Squarrosa.

3. The third is titled, *Gorteria foliis imbricatis bifariam ciliatis, ciliis exterioribus ſpinâque terminali reflexis.* Burman calls it, *Carlina foliis imbricatis oblongis reticulatis & in aculeum aduncum deſinentibus*; Ray, *Carduus Africanus luteus, atractylidis facie, extremo foliorum aculeo adunco*; and Plukenet, *Aculeoſa Æthiopica, atractylidis facie.* It grows naturally in Æthiopia. Ciliaris.

4. The fourth is titled, *Gorteria foliis lanceolatis integris dentato-ſpinoſis ſubtus tomentoſis, caule fruticoſo.* Van Royen calls it, *Atractylis foliis oblongo-ovatis denticulatis ſpinoſis, calycibus patentibus, caule fruticoſo.* It grows naturally in Æthiopia. Fruticosa.

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CHAP. LXXXVI.

GREWIA.

THIS genus comprehends two ſpecies; one of which requires a Green-houſe only for its reſidence in winter; the other will not flouriſh, unleſs ſtationed in a ſtove. The Green-houſe ſpecies is called, Occidental *Grewia.*

The plant deſcribed. The ſtalk is woody, branching, ſmooth, of a dark-brown colour, and the ſhrub grows to be eight or ten feet high. The leaves are nearly oval, acute, and very much like thoſe of the common Elm-tree. The flowers are produced ſingly from the wings of the leaves; they are of a bright-purple colour, appear in July, Auguſt, and September, but are not ſucceeded by ripe berries in England.

Culture.

This ſpecies is propagated by layers, which may be performed on the young ſhoots at any time of the year, but more eſpecially in the autumn, or early in the ſpring, before the leaves come out. If they are layered in the ſummer, they frequently ſtrike root by the autumn; but if the buſineſs is performed either in the autumn, winter, or ſpring, they will be well rooted by the autumn following; when they may be taken off and planted ſeparately in pots filled with rich garden mould, obſerving to preſerve as much earth about the roots as poſſible, to prevent their drooping, and cauſe them to ſtrike root before winter. About the end of October, or in November, if the weather is mild, they muſt be taken into ſhelter with the hardieſt Green-houſe plants, for they require protection only from froſts; and early in the ſpring, they may be ſet abroad, with others of the like kind, in ſome well-ſheltered place, appropriated for the reception of Green-houſe plants.

It is alſo propagated by cuttings. Theſe ſhould be planted, in the ſpring, in pots filled with the like kind of rich garden mould, and be plunged into a hotbed of tanner's bark: Here they muſt be duly watered, and kept ſhaded, until they have taken root, when they muſt be hardened by degrees to the open air, and afterwards ſet abroad in ſome warm, well-ſheltered place, where they may remain until the autumn; and then, if many cuttings were planted in a pot, they ſhould be potted ſeparately, and have ſimilar treatment to that of the layers.

Titles. Occidentalis.

This ſpecies is titled, *Grewia foliis ſubovatis.* In the *Hortus Cliffort.* it is termed, *Grewia corollis acutis.* Plukenet calls it, *Ulmi-folia arbor Africana bacifera, floribus purpureis*; and Commeline, *Ulmi facie arbuſcula Æthiopica, ramulis alatis, floribus purpuraſcentibus.* It grows naturally in Æthiopia.

Claſs and order in the Linnæan Syſtem.

Grewia is of the claſs and order *Gynandria Polyandria*; and the characters are,

The characters.

1. Calyx is a perianthium compoſed of five ſpear-ſhaped, erect, coriaceous, coloured, patent, deciduous leaves.

2. Corolla is five petals, the figure of the calyx, but uſually ſmaller, and indented at the baſe.

The nectarium is a thick incurved ſcale, inſerted at the baſe of each petal, and inclining to the border ſurrounding the ſtyle.

3. Stamina are numerous, ſetaceous filaments the length of the petals, and inſerted into the baſe of the germen, having roundiſh antheræ.

4. Pistillum conſiſts of a roundiſh, pedicellated germen, a filiforme ſtyle the length of the ſtamina, and an obtuſe quadrifid ſtigma.

5. Pericarpium is a four-lobed berry, containing four cells.

6. Semen. The ſeed is ſingle, globular, and contains two cells.

CHAP. LXXXVII.

GUAJACUM, LIGNUM VITÆ,

or POCKWOOD.

One ſpecies for the Green-houſe is arranged under this genus, called at preſent the African *Guajacum* Tree.

The plant deſcribed.

The ſtem is woody, branching, and grows to fifteen or twenty feet high. The leaves are pinnated; the pinnæ are ſmall, oval, acute-pointed, of a ſhining green colour, and arranged by pairs along the mid-rib. The flowers come out in cluſters from the ends and ſides of the branches; they are of a fine-ſcarlet colour, but rarely ſhew themſelves in any European gardens.

Culture.

This plant is propagated by ſeeds, which muſt be procured from the countries where they naturally grow. They muſt be ſown in pots filled with light, rich, garden mould, and be plunged into a hotbed of tanners-bark; the mould in the pots muſt be kept moiſt by frequent ſprinklings of water; and in four or five weeks, if the ſeeds were good, the young plants will come up. They muſt have as much air allowed them as the weather will permit, to prevent their drawing weak, and muſt be frequently ſprinkled with water. When they are about three inches high, they muſt be ſet ſeparately in ſmall pots filled with the like kind of rich, light earth; they muſt be again plunged into the hotbed, where they muſt be watered and ſhaded until they have taken root; after this, they muſt be hardened by degrees to the open air. When this is effected, they may be ſet abroad in ſome warm, well-ſheltered part of the garden, where they may remain until the autumn, and then be taken into the Houſe with the more tender ſorts of Green-houſe plants. They muſt from time to time be ſhifted into larger pots, as often as they ſhall require it; they muſt have little water, and be ſtationed in a warm part of the Green-houſe during the winter; but they muſt be ſet abroad every ſummer, and in dry weather be watered three times a week, to forward the plants growth, which is apt to be retarded through a neglect of this ſort. They rarely flower in Europe, but make a pleaſing variety in the Green-houſe, among other exotics, by their beautiful, ſplendid, pinnated leaves, which continue green all the year.

By layers alſo this tree is propagated. This ſhould be performed on the young ſhoots either in the autumn or ſpring; but they are generally two years before they ſtrike root. When this is effected, and they are fit to remove, they muſt be taken off from the old plants, being careful to preſerve as much mould to the roots as can be, and be planted in pots filled with the like kind of rich garden mould; after this they may be treated like the ſeedlings.

Titles. Afrum.

This ſpecies is titled, *Guajacum foliolis multijugis acutis.* In the *Hort. Cliff.* it is termed, *Guilandinoides.* Boerhaave calls it, *Afra arbor acaciæ ſimilis,*

ſimilis, foliis myrti aculeatis ſplendentibus; and Walther, *Acacia Africana, quæ acaciæ ſimilis, foliis myrti parvis aculeatis pinnatis, flore coccineo tetrapetaloide.* It grows naturally in Æthiopia and China.

Claſs and order in the Linnæan Syſtem. The characters.

Guajacum is of the claſs and order *Decandria Monogynia*; and the characters are,

1. Calyx is a perianthium, compoſed of five oval, oblong, concave leaves, the two outer ones being the ſmalleſt.

2. Corolla is five, oval, oblong, concave, patent petals, having narrow ungues.

3. Stamina are ten erect filaments, with oblong antheræ.

4. Pistillum conſiſts of a cuneiforme, angular, ſubpedicellated germen, a ſhort ſtyle, and a ſimple, acute ſtigma.

5. Pericarpium. The fruit is angular, compreſſed, and contains three cells.

6. Semen is a hard nut, placed ſingly in each of the cells.

CHAP. LXXXVIII.

HALLERIA, AFRICAN FLY HONEY-SUCKLE.

THERE is only one ſpecies of this genus, known among Gardeners by the name of African Fly Honey-Suckle.

The plant deſcribed.

The ſtem is woody, branching, and grows to ſix or ſeven feet high. The leaves are oval, pointed, ſerrated, of a lucid-green colour, grow oppoſite by pairs, and continue all winter. The flowers are produced ſingly from the wings of the leaves along the branches; they are ſmall, of a red colour, appear in June, and are ſucceeded by roundiſh berries, which ripen in September.

Culture.

It is propagated by ſowing the ſeeds on a hotbed in the ſpring. When the plants come up, they muſt have much air, to prevent their drawing weak. When they are fit to remove, they muſt be planted ſeparately in pots filled with good garden mould; they muſt next be plunged up to the rims in a moderate hotbed, be watered, and kept ſhaded until they have taken root. After this they muſt be hardened by degrees to the open air; then be ſet abroad in ſome warm, well-ſheltered part of the garden, where they may remain until the autumn; and then be taken into ſhelter with the more hardy kinds of Green-houſe plants.

They are alſo raiſed by cuttings. Theſe may be planted in pots filled with the like kind of rich garden mould; and if they are plunged into a moderate hotbed, it will much facilitate their taking root; though they will grow without ſuch help, eſpecially if they are kept ſhaded, and are duly watered at firſt; or they will grow, if planted in the full ground in a ſhady part of the garden, when all danger from froſt is over. If the plants have been brought forward by the aſſiſtance of a hotbed, they muſt be hardened betimes to the open air, then be ſet abroad, and managed like the ſeedlings; but if they are ſet in the full ground, after they have commenced a good growing ſtate, they muſt be potted ſeparately, obſerving to preſerve much earth about the roots, that their growth may be retarded as little as poſſible. When they are all diſtinctly potted, they may be ſet abroad in ſome warm, well-ſheltered place, to remain there until the end of autumn, and may then be managed like the ſeedlings, and other cuttings.

Titles.

Lucida.

There being no other ſpecies of this genus, it is ſimply named, *Halleria*. Van Royen calls it, *Halleria foliis ovatis longitudinaliter ſerratis*; alſo, *Halleria foliis lanceolato ovatis ſupernè ſerratis.* Burman ſtiles it, *Lonicera foliis lucidis acuminatis dentatis, fructu rotundo*; alſo, *Lonicera folio acuto ſerrato, flore pendulo, fructu oblongo.* Amman names it, *Solanum flore periclymeni*; and Boerhaave, *Caprifolium Africanum folio pruni leviter ſerrato, flore ruberrimo, baccâ nigrâ.* It grows naturally in Æthiopia.

Claſs and order in the Linnæan Syſtem. The characters.

Halleria is of the claſs and order *Didynamia Angioſpermia*; and the characters are,

1. Calyx is a monophyllous, obtuſe, plane, patent, permanent perianthium, cut into three ſegments, the upper one being much broader than the others.

2. Corolla is one ringent petal. The tube is rounded at the baſe, inflexed, and ſwoln at the top. The limb is oblique, erect, and cut into four ſegments; the upper one being longeſt, obtuſe, and indented at the top. The two lateral ones are ſhort, broader, and more acute; the loweſt very ſhort, ſlender, and acute.

3. Stamina. There are four ſetaceous, ſtraight filaments, inſerted in the tube; they are longer than the corolla, and two of them longer than the others, having roundiſh, didymous antheræ.

4. Pistillum conſiſts of an oval germen, a ſtyle longer than the ſtamina, and a ſimple ſtigma.

5. Pericarpium is a roundiſh berry, containing two cells.

6. Semina. The ſeeds are uſually ſingle.

CHAP.

CHAP. LXXXIX.

HARTOGIA.

THIS genus at preſent conſiſts only of one ſpecies, called, *Hartogia.*

The plant deſcribed. The ſtem is woody, upright, branching, and grows to three or four feet high. The leaves are awl-ſhaped, triangular, and grow oppoſite to each other. The flowers are produced in roundiſh bunches from the ends of the branches; they are of a white colour, appear in the ſummer, and continue in beauty a long time.

Culture. This is propagated by planting the cuttings, in any of the ſummer months, in pots filled with light, rich earth. They muſt then be plunged into a hotbed to forward their growth, be watered, and kept ſhaded until they have taken root, when they muſt be hardened by degrees to the open air. When this is effected, they muſt be ſet abroad in ſome warm, well-ſheltered place, where they may remain until the end of October, or later if the ſeaſon is mild, and afterwards be taken into the Green-houſe with the other plants.

Title. Capenſis. This being the only plant that conſtitutes the genus, it is ſimply titled, *Hartogia.* It grows naturally at the Cape of Good Hope.

Claſs and order in the Linnæan Syſtem. *Hartogia* is of the claſs and order *Pentandria Monogynia*; and the characters are,

The characters.

1. CALYX is a perianthium, compoſed of five oval, erect, acuminated, permanent leaves.

2. COROLLA is five oboval petals, having ungues the length of the calyx.

The nectarium has five oval, awl-ſhaped, ſhort, deciduous petals.

3. STAMINA are five filiforme, erect filaments, longer than the petals, having oval, incumbent antheræ.

4. PISTILLUM conſiſts of a three-cornered, obtuſe, retuſed germen; a ſtraight, filiforme ſtyle the length of the ſtamina; and an obtuſe ſtigma.

5. PERICARPIUM is trilocular.

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CHAP. XC.

HEBENSTRETIA.

THERE are two ſpecies of this genus, called,

Species.

1. Dentated *Hebenſtretia.*
2. Whole-leaved *Hebenſtretia.*

Dentated and Whole-leaved Hebenſtretia deſcribed. 1. Dentated *Hebenſtretia.* The ſtalks are numerous, have a ſtrong root, are round, edged, uſually purpliſh near the bottom, branching very little, and ſpread themſelves various ways; thoſe in the center being nearly erect, and about two feet high. The leaves are of different properties: The radical leaves are divided; thoſe on the lower parts of the ſtalks are dentated, above the middle of the ſtalk they are ſerrated, and the upper ones are narrow and entire; they are of a chearful green colour, have no footſtalks, and come out without order from the different parts of the plant. The flowers are produced in long ſpikes at the tops of the branches; they are ſmall, of a ſnow-white colour, having a red ſpot in the center; they appear in July and Auguſt, and ſometimes ripen their ſeeds in the autumn.

2. Whole-leaved *Hebenſtretia.* The ſtalks are round, tender, branching a little, and grow to two feet high. The radical leaves are larger than thoſe at the bottom of the ſtalk; the lower ones are ſtill larger than the upper ones, diminiſhing gradually in ſize from the bottom to the top, but they all have their edges whole and undivided. The flowers are produced in ſpikes along the upper parts of the ſtalks; they are ſmall, appear in July, Auguſt, and September, and ſometimes ripen their ſeeds in October and November.

Culture. Theſe plants are raiſed by ſowing the ſeeds on a hotbed, in the ſpring. If theſe are good, they will readily come up; and when the plants are out three inches high, they muſt be planted ſeparately in pots filled with light, freſh earth. They muſt then be plunged up to the rims in a hotbed, where they muſt be watered, and kept ſhaded until they have taken root, when they muſt be hardened by degrees to the open air; but they need not be taken out of the hotbed until the heat is abated, keeping the glaſſes wholly off night and day. When the plants can receive no further benefit from the heat of the bed, they muſt be ſet abroad among other Green-houſe plants, or they may continue in the bed, ſtill kept plunged up to the rims; in either caſe they will ſucceed very well with due waterings, in hot weather, until the autumn; at the end of which they ſhould be taken into the Green-houſe, with other moderately hardy exotic plants. The ſummer following they will flower, and frequently perfect their ſeeds; eſpecially if they are protected from heavy rains at the time of blow.

Titles: Dentata. 1. Dentated *Hebenſtretia* is titled, *Hebenſtretia foliis dentatis.* Commeline calls it, *Valerianella Africana, foliis anguſtis, flore maculâ rubicante notato*; Ray, *Valerianoides flore monopetalo, ſemine unico oblongo*; and Burman, *Pedicularis foliis anguſtiſſimis dentatis, floribus ſpicatis.* It grows naturally in Æthiopia.

2. Whole-leaved

Integrifolia

2. Whole-leaved *Hebenſtretia* is titled, *Hebenſtretia foliis integerrimis.* It grows naturally in Æthiopia.

Claſs and order in the Linnæan Syſtem. The characters.

Hebenſtretia is of the claſs and order *Didynamia Angioſpermia*; and the characters are,

1. Calyx is a monophyllous, tubular, permanent perianthium, divided into two lips. The upper lip is ſtraight, ſhort, and more ſlender than the other; the lower lip is ſpear-ſhaped, long, rude, and deflexed.

2. Corolla is one unequal petal. The tube is cylindrical, and ſhorter than the calyx. The upper part is in the form of a lip, which is riſing, broadeſt outwardly, quadrifid, and the length of the inferior lip of the calyx.

3. Stamina are four ſhort filaments, riſing from the lower edge of the corolla, two on each ſide; two of theſe, though very ſhort, are ſomewhat longer than the other two, and all four have oblong, lateral antheræ.

4. Pistillum conſiſts of an oblong germen, a filiforme ſtyle the length of the corolla, and a ſlender ſtigma.

5. Pericarpium is an oblong capſule, opening two ways.

6. Semina. The ſeeds are two, oblong, convex and triſulcated on one ſide, and plane on the other.

CHAP. XCI.

HEDYSARUM, FRENCH HONEY-SUCKLE.

THIS genus conſiſts of ſeven ſpecies, which wil live with protection from cold weather in winter, called,

Species.

1. Syrian *Hedyſarum*, or *Alhagi.*
2. Aſiatick *Hedyſarum.*
3. Carolina *Hedyſarum.*
4. Virginian *Hedyſarum.*
5. Maryland *Hedyſarum.*
6. Oriental *Hedyſarum.*
7. Hoary American *Hedyſarum.*

Syrian Hedyſarum or Alhagi deſcribed.

1. Syrian *Hedyſarum*, or *Alhagi.* The ſtalks of this ſpecies are woody, armed with reddiſh thorns, branching, and about a yard high. The leaves are ſimple, ſpear-ſhaped, obtuſe, ſmooth, of a pale-green colour, and grow on ſhort footſtalks. The flowers are produced in cluſters from the ſides of the branches; they are of a reddiſh-purple colour, appear in July, and are ſucceeded by jointed, ſickle-ſhaped pods, containing the ſeeds.

The Perſian Manna of the ſhops is an exudation of this plant.

Aſiatick,

2. Aſiatick *Hedyſarum.* The ſtalk of this ſpecies is ligneous, hairy, and ſends forth ſeveral hairy branches, which grow to about a yard high. The leaves are ſimple, heart-ſhaped, roundiſh, retuſe, ſmooth on their upper ſide, and hairy underneath. The flowers are produced from the ſides of the branches; they appear in July, and are ſucceeded by jointed, compreſſed pods, containing the ſeeds.

Carolina,

3. Carolina *Hedyſarum.* The ſtalks of this ſpecies are ligneous, hairy, branching near the top, and about two feet high. The leaves are trifoliate, ſub-oval, hairy underneath, and grow on ſhort footſtalks. The flowers come out in ſhort ſpikes from the ends of the branches; they are ſmall, and of a purpliſh-yellow colour, appear in July, and are ſucceeded by jointed, compreſſed pods, containing (with good management) ripe ſeeds in the autumn.

Virginian,

4. Virginian *Hedyſarum.* The ſtalks of this ſpecies are ſhrubby, branching near the top, rough, and about a yard high. The leaves are trifoliate, oval, and very hairy. The flowers come out from the ends and ſides of the ſtalks in oblong ſpikes; they appear in July, and are ſucceeded by ſmall, oval, hairy, acute pods, each containing only one ſeed.

Maryland,

5. Maryland *Hedyſarum.* The ſtalks of this ſpecies are ſhrubby, very ramoſe, and about two feet high. The leaves are trifoliate, and the folioles are roundiſh. The flowers are ſmall, and of a reddiſh colour; they come out from the ſides of the branches in July, and are ſucceeded by ſhort, compreſſed, jointed pods, ſometimes containing ripe ſeeds, in the autumn.

Oriental,

6. Oriental *Hedyſarum.* This is often called Oriental Cocks-head. The ſtalks are ligneous, and about a foot and half high. The leaves are pinnated, being compoſed of ſeven or nine pair of ſpear-ſhaped, narrow folioles. The flowers are produced in ſmall ſpikes from the wings of the leaves, on ſingle, prickly, permanent footſtalks; the number of flowers of which each ſpike is compoſed, is but about three or four, and theſe grow alternately on ſhort pedicles; they appear in July or Auguſt, and are ſucceeded by ſhort, ſmooth pods, each containing one ſeed.

and Hoary American Hedyſarum deſcribed.

7. Hoary American *Hedyſarum.* This is frequently called American Cocks-head. It hath a perennial root, which ſends forth a few ligneous, ſquare, hiſpid, weak ſtalks, which grow to be ſix or eight feet long, and, unleſs ſupported, lie on the ground. The leaves are for the moſt part trifoliate, tho' they are ſometimes ſingle; they are very rough on their under-ſide, and of a hoary whiteneſs. The flowers come out in ſpikes from the ends and ſides of the ſtalks; they are of a fine purple colour, appear in July, and are ſucceeded by rough pods, containing the ſeeds.

Culture.

All theſe plants are beſt propagated by ſowing of the ſeeds, moſt of which lie two years before they come up, unleſs they are forwarded in the ſpring by a good hotbed; therefore ſow the ſeeds, ſoon after they are ripe, in pots filled with light, freſh earth; and let the pots be placed in a warm, well ſheltered place, full upon the ſun, for their winter's reſidence. In the ſpring plunge them up to the rims in a hotbed; and when the

the plants come up, give them frequent ſprinklings of water, and air ſufficient to prevent their drawing weak. When they are fit to remove, let each be ſet in its own ſeparate pot, and let the pots be plunged up to the rims in a ſlight hotbed, obſerving to ſhade the plants, and water them until they have taken root. When they are in a good growing ſtate, they muſt be hardened by degrees unto the open air; and when that is effected, the glaſſes may be wholly taken off night and day. In the hotbed they may remain, the heat being exhauſted, until November; or they may be ſet in a well-ſheltered place until that time, and then ſtationed in the Green-houſe, or under a hotbed-frame, for their winter lodgings. In mild weather the glaſſes muſt be taken off, for they require protection only from froſts; and in the ſpring, if you have plenty of plants, a ſhare may be ſet in the Flower-garden, in warm, well-ſheltered places. They will live thro' our temperate winters, if matted only in froſty weather; but then they will flower later in the ſummer, and ſeldom perfect their ſeeds: So that, in order to have good ſeeds, ſome plants ſhould be ſet in the border of the hot wall, for this will cauſe them to flower early, and the ſeeds will ripen in abundance. For want of a hot wall, the plants muſt be brought forward by a hotbed; and if, when they are in blow, they are protected with the glaſſes from heavy rains, you will be pretty ſure of having ſeeds enough. The ſeeds of the firſt ſort will not always come up the firſt ſpring, even tho' forced by a hotbed. When this happens, after the heat of the bed is abated, take up the pots, and plunge them up to the rims in any common mould, in a warm, well-ſheltered place; if dry weather happens the remaining part of the ſummer, every third evening moiſten the mould with water, and about the end of November ſet the pots under the hotbed frame; let the glaſſes be opened for them all winter in mild weather, covering them only in froſty weather; in the ſpring plunge the pots into a hotbed, as before; and when the plants come up, manage them accordingly.

Titles. 1. Syrian *Hedyſarum*, or *Alhagi*, is titled, *Hedyſarum foliis ſimplicibus lanceolatis obtuſis, caule fruticoſo ſpinoſo.* Caſpar Bauhine calls it, *Geniſta ſpartium ſpinoſum, foliis polygoni*; Wheeler, *Geniſta ſpinoſa flore rubro*; Tournefort, &c. *Alhagi.* It grows naturally in Tartary, Perſia, Syria, and Meſopotamia. Alhagi

2. Aſiatick *Hedyſarum* is titled, *Hedyſarum foliis ſimplicibus cordato-orbiculatis retuſis ſupra glabris.* It grows naturally in Aſia. Styraci-folium.

3. Carolina *Hedyſarum* is titled, *Hedyſarum foliis ternatis ſubovatis ſubtus villoſis, caule fruteſcente.* In Miller's Dictionary it is termed, *Hedyſarum foliis ternatis ovato-lanceolatis ſubtus villoſis, caule fruteſcente villoſo.* It is a native of Carolina and Virginia. Frutescens.

4. Virginian *Hedyſarum* is titled, *Hedyſarum foliis ternatis ovalibus, caule fruticoſo, racemis ovatis, calycibus fructibuſque hirſutis monoſpermis.* Gronovius calls it, *Trifolium fruticoſum hirſutum, ſpicis oblongis pedunculatis.* It is a native of Virginia. Hirtum.

5. Maryland *Hedyſarum* is titled, *Hedyſarum foliis ternatis, foliolis ſubrotundis, caule fruteſcente ramoſiſſimo, leguminibus articulatis lævibus.* Dillenius calls it, *Hedyſarum trifoliatum, ſiliquâ breviore*; and Ray, *Hedyſarum triphyllum Marilandicum minus, ſiliquis compreſſis articulatis aſperis brevioribus.* It grows naturally in Carolina and Virginia. Marilandicum.

6. Oriental *Hedyſarum* is titled, *Hedyſarum foliis pinnatis linearibus, caule fruticoſo, pedunculis perſiſtentibus ſpineſcentibus, leguminibus monoſpermibus lævibus.* Tournefort calls it, *Onobrychis orientalis fruteſcens ſpinoſa, tragacanthæ facie.* It grows naturally in the Eaſt. Cornutum.

7. Hoary American *Hedyſarum* is titled, *Hedyſarum foliis ternatis ſubtus ſcabris, caule hiſpido, floribus racemoſis conjugatis.* In the *Hortus Cliffort.* it is termed, *Hedyſarum foliis ternis ſolitariiſque, caule hiſpido fruticoſo.* Brown calls it, *Hedyſarum triphyllum maximum ſcandens, caule trigono hirto uncinis, ſpicis amplis terminalibus*; Sloane, *Hedyſarum triphyllum fruticoſum (ſupinum) flore purpureo*; and Plukenet, *Onobrychis Americana, floribus ſpicatis, foliis ternatis caneſcentibus, ſiliculis aſperis.* It grows naturally in Virginia and Jamaica. Canescens.

CHAP. XCII.

HELIOTROPIUM, TURN-SOLE.

THERE are three ſhrubby ſpecies of this genus, two of which call for their ſituation to be in the ſtove, while the other will flouriſh very well in a good Green-houſe; this is called, The Peruvian *Heliotrope.*

The plant deſcribed. It is a branching ſhrub, about five feet high. The leaves are ſpear-ſhaped, oval, hairy, rough, veined on their underſide, and grow irregularly on ſhort footſtalks on the branches. The flowers are produced from the ends of the branches in numerous ſpikes, cluſtered together; they are of a bluiſh colour, and ſtrongly ſcented; they appear in ſummer, and continue the ſucceſſion through autumn, and ſometimes the greateſt part of the winter; and the firſt blown flowers are generally ſucceeded by very good ſeeds.

Culture. It is readily propagated by planting of the cuttings in pots in ſummer, and ſetting them in a ſhady part of the Green-houſe, until they have taken root; they muſt be duly watered from the time of being planted, and when they are in a growing ſtate, muſt be removed into a ſhady border, plunging the pots up to the rims in common mould; in this ſituation they may remain, until they are removed with other tender plants into the Green-houſe.

But as the ſeeds of this ſpecies ripen freely with us, plenty of plants may be eaſily raiſed that way. Sow the ſeeds therefore in the ſpring upon a moderate hotbed; and when the plants are about four inches high, ſet each in a ſeparate pot, preſerving as much of the mould about the roots as poſſible, give them a good watering, and plunge them into a ſecond hotbed; repeat the watering, and keep them ſhaded until they have taken root; after that they muſt be hardened by degrees to the open air, and then ſet abroad with other tender plants. The handſomeſt plants are generally raiſed from ſeeds; and as in a good Green-houſe they uſually exhibit their bloom through the greateſt part of the winter, this ſpecies makes a beautiful mixture with Oranges, &c. at that ſeaſon.

Titles. Peruvianum. The Peruvian *Heliotrope* is titled, *Heliotropium foliis lanceolato-ovatis, caule fruticoſo, ſpicis numeroſis aggregato-corymboſis.* Miller calls it, *Heliotropium foliis ovato-lanceolatis, ſpicis plurimis confertis, caule fruticoſo.* It grows naturally in Peru.

CHAP. XCIII.

HERMANNIA.

Species. THE diſtinct ſpecies of this genus are,

1. *Althæa*-leaved *Hermannia.*
2. *Alnus*-leaved *Hermannia.*
3. Trifurcated *Hermannia.*
4. Hyſſop-leaved *Hermannia.*
5. Lavender-leaved *Hermannia.*
6. Trifoliate *Hermannia.*
7. Triphyllous *Hermannia.*
8. *Groſſularia*-leaved *Hermannia.*
9. Pinnated *Hermannia.*

Althæa-leaved, 1. *Althæa*-leaved *Hermannia.* The ſtem is woody, brown, ſends forth ſeveral ſoft, white, woolly branches, and grows to be two or three feet high. The leaves are oval, plaited, crenated, woolly, and ſoft to the touch. The flowers are numerous at the ends of the branches, and they riſe lower down, two or three together, on footſtalks from the wings of the leaves; they are of a yellow colour, appear in June and July, and ſometimes continue in ſucceſſion until the autumn.

Alnus-leaved, 2. *Alnus*-leaved *Hermannia.* The ſtem is woody, brown, divided into many irregular branches, and grows to be three or four feet high. The leaves are wedge-ſhaped, broad, obtuſe, plaited, and indented on their edges. The flowers are produced in ſpikes from the ends and ſides of the branches; they are of a yellow colour, appear in April and May, and are ſometimes ſucceeded by ripe ſeeds in England.

Trifurcated, 3. Trifurcated *Hermannia.* The ſtem is woody, branching, and three or four feet high. The leaves are ſpear-ſhaped; ſome of them are entire, and others have three deep indentures at the top. The flowers come out on footſtalks from the upper parts of the branches; they are ſmall, of a yellow colour, and hang drooping; they appear in May and June, but are rarely ſucceeded by ſeeds in England.

Hyſſop-leaved, 4. Hyſſop-leaved *Hermannia.* The ſtem is woody, upright, ſends out many branches, and grows to be ſeven or eight feet high. The leaves are ſpear-ſhaped, broad, obtuſe, and ſerrated at the top. The flowers are produced in cluſters from the ſides of the branches; they are of a ſulphur colour, appear in May and June, and are frequently ſucceeded by ſeeds, which ripen the latter end of Auguſt, or early in September.

Lavender-leaved, 5. Lavender-leaved *Hermannia.* The ſtem is woody, divides into numerous, ligneous, ſlender branches, and grows only to about a foot and half or two feet high. The leaves are ſpear-ſhaped, obtuſe, entire, hairy, and of a pale-green colour. The flowers are produced in cluſters, along the ſides of the branches, towards the upper parts; they are ſmall, of a golden-yellow colour, appear in June and July, and continue in ſucceſſion until the autumn.

Trifoliate, 6. Trifoliate *Hermannia.* The ſtem is woody, branching, and two or three feet high. The leaves are trifoliate; the folioles are oblong, plaited, ſerrated, retuſed, ſoft, and woolly. The flowers come out in looſe ſpikes from the ends of the branches; they are of a yellow colour, and appear in June and July.

Triphyllous, 7. Triphyllous *Hermannia.* The ſtem is woody, branching, and three or four feet high. The leaves are ternate, oboval, plane, and grow on footſtalks. The flowers come out in ſmall cluſters from the ends and ſides of the branches; they are of a yellow colour, and appear about the time of the former.

Groſſularia-leaved, 8. *Groſſularia*-leaved *Hermannia.* The ſtem is woody, ſends out many ſpreading branches, and grows to be three or four feet high. The leaves are ſpear-ſhaped, oboval, cut on their edges, and ſit cloſe to the branches. The flowers are produced two together on a footſtalk, are numerous at the ends of the branches, and of a deep-yellow colour; they make a fine appearance when in blow; they appear in the early part of May, and ſometimes in April, but are not ſucceeded by ſeeds in England.

and Pinnated, Hermannia deſcribed. 9. Pinnated *Hermannia.* The ſtem is woody, of a reddiſh colour, ſends out many ſlender, ligneous branches, and grows to about three feet high. The leaves are divided into three parts; the middle one is narrow, pointed, and the ſides are deeply cut into many ſegments. The flowers are produced in ſmall cluſters, along the ſides of the branches; they are ſmall, of a deep-yellow colour, and appear in June and July.

Culture. Theſe are all propagated by planting the cuttings in any of the ſummer months. They ſhould be ſet cloſe together in a bed of rich garden mould, and be hooped and covered with mats, to protect them from the ſun at firſt; if they are then kept ſhaded and duly watered, they will ſoon ſtrike root, when you muſt by degrees take off the mats, and harden them to the open air. When they have commenced a good growing ſtate, they muſt be taken up with a ball of earth to each root, and planted ſeparately in pots filled with light, rich earth; they muſt then be watered, ed, and ſet in the ſhade for a few weeks; after that they ſhould be placed in a warm ſituation, where they may remain until the end of October, or later if the weather is fine, and be then taken into the Green-houſe with other hardy exoticks. Theſe plants require protection only from froſt; and when that is granted, the more hardy their other uſage is, they will ſhew better ſigns of health, and produce their flowers fairer and in greater plenty.

They are alſo raiſed by ſeeds; but as theſe plants have been ſo long propagated by cuttings in England, they do not often produce ſeeds here, it being the property of moſt plants to become barren, when repeatedly raiſed from cuttings. Let the ſeeds therefore be procured from the places where they naturally grow, and let them be ſown in pots filled with light, rich earth, and then be plunged in a hotbed to facilitate their growth; they will readily come up; and when they are fit to remove, let them be potted ſeparately, be again plunged into a hotbed, be watered and kept ſhaded until they have taken root; afterwards let them be hardened by degrees to the open air, and then ſet them abroad for the remaining part of the ſummer. Plants raiſed this way generally produce good ſeeds in England; ſo that having once obtained a ſufficient ſtock of them, their increaſe may be effected that way, which is the more eligible method of propagation. They muſt be often freſh potted and the roots pared, for they ſoon fill the pots; and if this is neglected, the growth of the plants is retarded, and their beauty impaired.

Titles.

Althæifolia. 1. The firſt ſpecies is titled, *Hermannia foliis ovatis plicatis crenatis tomentoſis*. Petiver calls it, *Hermannia Capenſis, althææ folio*; and Commeline, *Ketmia Africana fruteſcens, foliis mollibus & incanis*. It grows naturally in Æthiopia.

Alnifolia. 2. The ſecond is titled, *Hermannia foliis cuneiformibus plicatis crenatis emarginatis*. Commeline calls it, *Ketmia Africana veſicaria fruticans & erecta, alni foliis latioribus & majoribus*. It grows naturally in Æthiopia.

Trifurcata 3. The third is titled, *Hermannia foliis lanceolatis integris tridentatiſque*. Volkamer calls it, *Althæa Africana fruteſcens, floribus aureis cochleatis pendulis minoribus*. It grows naturally at the Cape of Good Hope.

4. The fourth is titled, *Hermannia foliis lanceolatis obtuſis ſerratis*. It grows naturally in Æthiopia. Hyſſopifolia.

5. The fifth is titled, *Hermannia foliis lanceolatis obtuſis integerrimis*. Boerhaave calls it, *Hermannia fruteſcens, folio lavendulæ latiore & obtuſo, flore parvo aureo*. It grows naturally in Æthiopia. Lavendulifolia.

6. The ſixth is titled, *Hermannia foliis ternatis ſeſſilibus plicatis retuſis*. Boerhaave calls it, *Hermannia fruteſcens, folio oblongo molli cordato hirſuto*. It grows naturally in Æthiopia. Trifoliata.

7. The ſeventh is titled, *Hermannia foliis ternatis petiolatis planis obovatis*. It grows naturally at the Cape of Good Hope. Triphylla.

8. The eighth is titled, *Hermannia foliis lanceolatis pinnatifidis*. Van Royen calls it, *Hermannia foliis obovatis acutè inciſis, pedunculis bifloris*. It grows naturally in Æthiopia. Groſſularifolia.

9. The ninth is titled, *Hermannia foliis tripartitis, mediâ pinnatifidâ*. Boerhaave calls it, *Hermannia fruteſcens, folio multifido tenui, caule rubro*; Commeline, *Ketmia Africana veſicaria, uvæ criſpæ foliis*; and Plukenet, *Ciſtoides frutex Æthiopicus parvis coronopi foliis, ad nodos caulem radiatim ambientibus*. It grows naturally in Æthiopia. Pinnata.

Claſs and order in the Linnæan Syſtem. The characters.

Hermannia is of the claſs and order *Monadelphia Pentandria*; and the characters are,

1. Calyx is a monophyllous, roundiſh, inflated, permanent perianthium, cut at the top into five inflexed ſegments.

2. Corolla conſiſts of five petals, twiſted ſpirally contrary to the ſun's motion; the ungues are the length of the calyx, membranaceous, and by converging form a cucullated, nectariferous tube; the limb is patent, broad, and obtuſe.

3. Stamina are five broadiſh filaments, which are joined near the baſe into one body, having erect, acuminated, connivent antheræ.

4. Pistillum conſiſts of a roundiſh, five-cornered germen, and five awl-ſhaped, filiforme, approximated ſtyles, longer than the ſtamina, having ſimple ſtigmas.

5. Pericarpium is a roundiſh, five-cornered capſule, containing five cells, and opening at the top.

6. Semina. The ſeeds are many, and ſmall.

C H A P. XCIV.

HYPERICUM, St. JOHN's WORT.

THE moſt tender ſpecies of this genus are called,

Species.
1. Majorca St. John's Wort.
2. Surinam St. John's Wort.
3. China St. John's Wort.

Majorca 1. Majorca St. John's Wort. The ſtalks of this plant are ligneous, ſquare, about two feet high, and ſend forth ſeveral weak branches, which are covered with a reddiſh bark. The leaves are ſmall, oval, waved on their edges, warted underneath, embrace the ſtalk with their baſe, and when they fall off leave a cicatrice mark on their bark. The flowers are produced from the tops of the ſtalks; they are large, and of a bright-yellow colour; they have numerous ſtamina, which are rather ſhorter than the petals, and five ſtyles; they come out the greateſt part of the year, and are ſucceeded by pyramidical capſules, containing the ſeeds.

2. Surinam St. John's Wort. The ſtalks of this ſpecies are ſhrubby, branching, and about a yard high. The leaves are ſpear-ſhaped, ſlightly ſerrated, and hoary underneath. The flowers come out from the wings of the leaves, on long footſtalks; and Surinam St. John's Wort deſcribed.

ſtalks; they have numerous ſtamina, which are rather ſhort, and fine ſtyles; they come out in June and July, and are ſucceeded by ligneous capſules, containing the ſeeds.

China St. John's Wort deſcribed.

3. China St. John's Wort. This hath a ligneous, fibrous root, which ſtrikes deep into the ground. The ſtalks are woody, about two feet high, and are covered with a purpliſh bark. The leaves are oblong, ſmooth, of a bright-green colour on their upper ſide, but whitiſh underneath, and grow oppoſite by pairs, ſitting cloſe, without any footſtalks. The flowers come out from the tops of the ſtalks in ſmall cluſters, each having its own ſeparate ſhort footſtalk; their colour is a bright-yellow, but their calyces are of a purple colour; their ſtamina are numerous, and larger than the petals, but there is only one ſtyle to a flower; they come out at all times of the year, if the ſituation ſuits them, but are very rarely ſucceeded by good ſeeds in England.

Culture.

They are all propagated by cuttings or layers. The firſt ſort is beſt propagated by cuttings. Theſe ſhould be taken off about midſummer, and planted in pots filled with light, ſandy earth; the pots ſhould be then ſet in the Green-houſe in a ſhady place, and ſhould be watered every other evening. When you find them in a growing ſtate, they ſhould be ſet in a warm ſituation among other tender plants; in the autumn they ſhould be removed into the Green-houſe, or placed in the glaſs-caſe, where they will do better; they muſt have very little water in winter, too much of which firſt brings on a mouldineſs, and ſoon after death to theſe plants.

The others may be propagated in the ſame manner; but the moſt ſure way for theſe, is to lay the young ſhoots down in the ſpring, according to the uſual method of layering, and by the autumn they will have ſtruck root, and become good plants. Each then ſhould be ſet in its own ſeparate pot, and removed into the Green-houſe; and in the ſpring, if there be plenty of them, a ſhare may be turned out into the open ground, in a dry, warm, well-ſheltered place, and in ſuch a ſituation they will bear the cold of our common winters very well; whilſt the others being continued in the pots, may be preſerved in the Green houſe, to propagate from afreſh, in caſe thoſe abroad ſhould be deſtroyed by bad weather.

Titles.

1. Majorca St. John's Wort is titled, *Hypericum floribus pentagynis, caule fruticoſo, foliis ramiſque cicatriſatis.* In the *Hortus Cliffort.* it is termed, *Hypericum floribus pentagynis, foliis & ramis verrucoſis.* Magnol calls it, *Hypericum ſ. aſcyrum fruteſcens*; and Cluſius, *Myrto-Ciſtus Pennæi.* It grows naturally in Majorca. Balearicum.

2. Surinam St. John's Wort is titled, *Hypericum floribus pentagynis, foliis lanceolatis ſerratis.* Plukenet calls it, *Alcea Floridana quinquecapſularis, laurinis foliis leviter crenatis, ſeminibus coniferum inſtar alatis.* It is a native of Carolina and Surinam. Lasianthus.

3. China St. John's Wort is titled, *Hypericum floribus monogynis ſtaminibus corollâ longioribus, calycibus coloratis, caule fruticoſo.* It is a native of China. Monogynum.

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CHAP. XCV.

JASMINUM, JESSAMINE.

THE Green-houſe is enriched with the following diſtinct ſpecies of Jeſſamine, called,

1. Catalonian Jeſſamine.
2. Azorian Jeſſamine.
3. Yellow Indian Jeſſamine.

Catalonian,

1. Catalonian Jeſſamine. This is an upright, ſpreading ſhrub of great beauty. The ſtem is covered with a grey bark, and the young ſhoots are of a green colour. The leaves are pinnated; each conſiſts of about three pair of folioles, beſides the odd one with which they are terminated; they are of a lively-green colour, and grow oppoſite on the branches. The flowers come out from the wings of the ſtalks; they are large, grow four or five together, and have longiſh footſtalks; their inſide is of a pure white colour, and their outſide is a reddiſh purple, which is deeper or paler in different flowers; they are exceeding fragrant, ſhew themſelves in ſucceſſion the greateſt part of the ſummer, but are not ſucceeded by ſeeds in England. There is a variety of this ſpecies with ſemi-double flowers.

Azorian,

2. Azorian Jeſſamine. This is often called Ivy-leaved Jeſſamine. The ſtalks of this plant are weak, ſlender, and covered with a light-grey bark, and the young ſhoots are of a green colour. The leaves are trifoliate, large, of a deep and bright-green colour, grow oppoſite, by pairs, on the branches, and continue all the year. The flowers are produced in looſe tufts or bunches from the ends of the branches; they are moderately large, of a good white colour, highly ſcented, and continue to ſhew themſelves great part of the ſummer.

Yellow Indian Jeſſamine deſcribed.

3. Yellow Indian Jeſſamine. This is a pretty firm ſhrub; the main ſtalk is woody, eight feet high, and ſends forth ſeveral taper branches, the young ſhoots of which are of a green colour. The leaves are trifoliate, of a ſtrong, bright-green colour, grow alternately, and continue all the year. The flowers are produced in bunches from the ends of the branches; they are of a yellow colour, and remarkable for their heightened fragrance; they come out in July, frequently continue in ſucceſſion until the end of autumn; and the firſt blown flowers are often ſucceeded by oval, black berries, containing ripe ſeeds, in October.

Culture.

The culture of the Azorian and Yellow Indian Jeſſamines is beſt effected by ſeeds, if a large quantity of plants is wanted. The ſeeds ſhould be ſown in the ſpring, in pots filled with freſh, light, rich earth, and the pots ſhould be then plunged up to the rims in the mould of a ſlight hotbed: This will facilitate the growth of the ſeeds; and when the plants come up, as much air as poſſible muſt be granted them, or they will ſoon draw weak, turn yellow, and be ſpoiled; watering alſo at proper intervals muſt be afforded them. In this bed they may remain until the heat of it is pretty much abated, by which time the plants will be fit for a ſecond hotbed; they ſhould therefore be carefully ſhook out of their pots, with the mould along with them, to prevent the fibres being broken, and the roots bruiſed; and each plant ſhould be then ſet in ſeparate ſmall pots filled with the like kind of freſh, rich earth, and the pots ſhould be plunged up to the rims in a ſecond hotbed. The plants muſt be watered, and conſtantly ſhaded, until they have taken root; much air muſt all along be granted them; watering in ſmall quantities ſhould be repeated, and the plants afterwards ſhould be hardened to the open air. When this is effected, which ſhould be by July, the pots may be taken out, and plunged up to the rims in common mould, in a ſhady, well-ſheltered place. In September they ſhould be brought where they can receive the morning ſun, and by the end of that month ſhould be ſet in a full ſouth aſpect, where they may have the benefit of as much ſun as can be the whole day. This place ſhould be well-ſheltered; and in this ſituation they may remain until the beginning of November, or ſuch time as you take the hardieſt plants into the Green-houſe; when theſe ſeedlings, in their pots, ſhould be houſed with them. They muſt from time to time be ſhifted into larger pots as they increaſe in ſize, and be ſet abroad in the ſpring with other hardy Green-houſe plants. This is the time to prune them, and clear them of all decayed leaves and branches: In doing this, never take off the ends of the growing ſhoots, for theſe are to produce the flowers; and as they are more or leſs taken off, the blow will be proportionally ſmaller.

Theſe ſorts alſo are to be increaſed by layering. The young ſhoots are proper for the purpoſe; and early in September is the time when the work ſhould be done. The performance ſhould be by ſlitting the young ſhoots at the joint; and if this be well executed, and the plants regularly watered when they are ſet abroad the ſummer after (which is too often neglected, even though dry weather ſhould happen), they will ſtrike root, and become good plants by the autumn; then every layer ſhould be taken off, planted in a ſeparate pot, and managed like other hardy Green-houſe plants.

They may be alſo encreaſed by grafting, budding, or inoculating on the ſtocks of the Yellow Jeſſamine; but as this ſpecies of Jeſſamine throws out ſuch a multitude of ſuckers, it is a method not worth putting in practice, and the only good way of raiſing theſe plants is either from ſeeds or layers.

The Catalonian Jeſſamine is raiſed by grafting, budding, or inoculating into the ſtocks of the Common White Jeſſamine, in which they take admirably well; and by which practice in the common way, a multitude of plants may be eaſily obtained, if you have cuttings for the purpoſe.

As theſe plants are annually imported from Italy, and purchaſed at a very reaſonable expence, it perhaps may be expected, before I quit this head, to give directions for the choice of the plants, and their after-management. With regard to the former, nothing more need be done than to ſee the roots are good, the bark plump and lively, and the grafts well joined to the ſtock; that they have ſhot ſtrong, and are in good health. Having made choice of plants with thoſe properties, the roots ſhould be well cleaned, and then ſoaked for two days in water, ſet in the Green-houſe, or ſome convenient room. This being done, the roots muſt be trimmed according to the laws of planting; and the head muſt be reduced to within three, four, five, or even ſix inches of the graft, according to the ſtrength of the plant. Each plant muſt be ſet in pots filled with freſh, light earth, and then plunged up to the rims in a bark-bed; they muſt be ſhaded, and regularly watered; and in about three weeks, or ſooner, they will ſhew ſigns of growth by beginning to ſhoot, at which time all buds which are put forth below the grafts muſt be rubbed off; and this muſt alſo ever afterwards be attended to as often as they appear. As the ſhoots advance in length, they muſt have proportionally more air, the glaſſes muſt be raiſed, and the plants by degrees muſt be hardened to ſtand abroad. When this is effected, which ought to be in June, they máy be taken into a warm, well-ſheltered place during the ſummer, and removed in the autumn into the Green-houſe with the other plants. In winter they muſt be frequently watered, but muſt have little at a time, which would otherwiſe endanger the rotting of the fibres, to the deſtruction of the plants; and in the ſpring the head ſhould be pruned, the weakeſt branches ſhould be taken out, and the others cut down to within three or four eyes of the bottom, as their ſtrength will allow: This being done, they ſhould be plunged into a ſlight hotbed, to cauſe them to ſhoot with greater vigour, form ſtronger heads, and bring them earlier to flower. When they are thus ſet forward, and the ſhoots are three or four inches long, the plants muſt be hardened to the open air; which ſhould be done by the end of May, or early in June, or they will be too much drawn, and the flowers proportionally ſmall, and leſs beautiful. When they are hardened, they may be ſet abroad in a warm, well-ſheltered place; they will continue to afford flowers all ſummer and autumn; at the end of which they may be removed into the houſe with the hardieſt Green-houſe plants, and treated accordingly.

Directions for chuſing theſe plants, and their after-management.

All the three ſpecies will live abroad through mild winters; ſo that if there be plenty of plants, a few of each may be placed againſt a warm wall, that is full upon the ſun, and well-defended from the winds. In froſty weather ſome litter may be laid about the roots, and the ſtems and branches may be guarded with mats. If this work be duly obſerved, they will live through common winters; and the flowers will be in greater plenty, larger, and more finely ſcented than thoſe in pots from the Green-houſe.

The oldeſt plants ſhould be for the purpoſe of planting out; becauſe, being moſt woody, they are always the hardieſt. They ſhould be carefully turned out of the pots, and ſet as cloſe to the wall as may be; the border ſhould be rich, and light; but for want of this, freſh mould from a fertile meadow ſhould be introduced; a good watering ſhould be afforded them at this time, and the branches ſhould be nailed to the wall. Their after-management will be, to keep the wall as full of ſhoots as may be, that a greater profuſion of bloom may be exhibited; and this is done by ſhortening the long ſhoots, to cauſe them to ſhoot out others, to fill any place wanted; which ſhoots ſhould always be nailed in their reſpective places, as they are produced. By this method, the wall may be kept full in every part; the delightful ſhow of flowers will at once feaſt the eye and regale the ſenſe of ſmell at a conſiderable diſtance; and the continuance of it will frequently be from mid-ſummer to the end of autumn. In November, all faded flowers, decayed leaves and branches, ſhould be taken off; for theſe become mouldy under the mats, and ſpread the contagion to the yet wholeſome tender ſhoots, which will ſoon deſtroy the uniformity and beauty of the tree, and cauſe part of the wall to be unfurniſhed.

When the froſts ſet-in, the litter ſhould be drawn round the roots, but not laid too near the ſtems of the plants; the mats alſo muſt be applied, which ought to be doubled or tripled, as the intenſe degree of froſt makes it neceſſary. As theſe mats ſhould be always taken off in mild weather and in the middle of fine days, and replaced in cold evenings, it will be adviſeable to cauſe them to be let down with rollers; whereby much trouble in taking off and replacing mats will be ſaved, and the ſafety, health, and vigour of the trees be better enſured.

Titles.

1. Catalonian Jeſſamine is titled, *Jaſminum foliis oppoſitis pinnatis foliolis extimis confluentibus.* Caſpar Bauhine calls it, *Jaſminum humilius, magno flore*; and Cammerarius, *Gelſeminum Catalonicum.* It grows naturally in Malabar.

Grandi-florum.

2. Azorian or Ivy-leaved Jeſſamine is titled, *Jaſminum foliis oppoſitis ternatis.* Commeline calls it, *Jaſminum Azoricum trifoliatum, flore albo odoratiſſimo*; Burman, *Jaſminum ſylveſtre triphyllum: floribus rubellis umbellatis*; and Plukenet, *Jaſminum album trifoliatum, flore magno.* It grows naturally in India.

Azoricum.

3. Yellow Indian Jeſſamine is titled, *Jaſminum foliis alaternis ternatis pinnatiſque, ramis teretibus.* In the *Hort. Cliffort.* it is termed, *Jaſminum foliis alternis ternatis obtuſis.* Ferrarius calls it, *Jaſminum Indicum flavum odoratiſſimum*; and Barrelier, *Jaſminum flavum odoratum.* It grows naturally in India.

Odoratiſsi-mum.

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CHAP. XCVI.

IBERIS, CANDY TUFT, or *SCIATICA* CRESS,

THIS genus affords us three beautiful little ſhrubby plants for our Green-houſe, called,

Species.

1. The Perſian Candy Tuft Tree.
2. The Cretan Candy Tuft Tree.
3. The Gibraltar Candy Tuft Tree.

Perſian Candy,

1. Perſian Candy Tuft Tree. The ſtalks of this plant are woody, ſend forth numerous, ſlender, ſpreading branches, and grow to about a foot and an half high. The leaves are cuneiforme, obtuſe, entire, ſmooth, and continue all the year. The flowers come out in umbels from the ends of the branches; their colour is white; they appear in the autumn, winter, ſpring, and the beginning of the ſummer, but are rarely ſucceeded by ſeeds in England.

There is a variety of this ſpecies with ſtriped leaves, which is in high eſteem with thoſe who are fond of variegated plants.

Cretan Candy,

2. Cretan Candy Tuft Tree. The ſtalks of this plant are ligneous, branching, and hardly a foot long. The leaves are narrow, acute, and continue green all the year. The flowers come out in umbels from the ends of the branches; their colour is white, and, like the former, they appear at almoſt all times of the year.

and Gibraltar Candy Tuft Tree deſcribed.

3. Gibraltar Candy Tuft Tree. The ſtalks of this ſpecies are ligneous, branching, and grow to about a foot high. The leaves are moderately broad, of a thickiſh ſubſtance, and indented at the top. The flowers are produced in umbels from the ends of the branches; their colour is white; they ſhew themſelves in the autumn, and continue in ſucceſſion through the winter and ſpring.

Culture.

All theſe ſorts are eaſily raiſed by ſlips or cuttings, which ſtrike root as readily as Sage in any of the ſummer months, if they are ſhaded and watered at firſt. They are all moderately hardy, except the variegated ſort of the firſt ſpecies; but you may venture a ſhare of each ſpecies abroad in a warm, well-ſheltered ſituation. Let therefore a ſhare of the cuttings be ſet in pots, to be houſed in the winter with other Green-houſe plants; and let another ſhare be planted in the open ground, to have treatment ſimilar to the Rock and Flax-leaved ſpecies among the Perennials.

Titles.

1. Perſian Candy Tuft Tree is titled, *Iberis fruteſcens, foliis cuneiformibus integerrimis obtuſis.* Morriſon calls it, *Leucojum fruticoſum umbellatum Perſicum, foliis leucoji inſtar ſempervirentibus*; Boccone, *Thlaſpi latifolium polycarpon, leucoji foliis*; and Tournefort, *Thlaſpi fruticoſum, folio leucoji, ſemper florens.* It grows naturally in Perſia and Sicily.

Semper-florens.

2. Cretan Candy Tuft Tree is titled, *Iberis fruteſcens, foliis linearibus acutis integerrimis.* Caſpar Bauhine calls it, *Thlaſpi montanum ſempervirens*; Dalechamp, *Thlaſpi candidum*; and Barrelier, *Thlaſpi Creticum perenne, flore albo.* It grows naturally in Crete.

Semper-virens.

3. Gibraltar Candy Tuft Tree is titled, *Iberis fruteſcens, foliis apice dentatis.* Dillenius calls it, *Thlaſpidium Hiſpanicum, ampliore flore, folio craſſo dentato.* It grows naturally near Gibraltar.

Gibralta-rica.

CHAP. XCVII.

INULA, ELECAMPANE.

THERE are two ſpecies of this genus proper for the Green-houſe, called,

Species.

1. Aromatic *Inula*, or Cape Starwort.
2. Pine-leaved *Inula*, or Æthiopian Starwort.

Aromatic Inula, or Cape Starwort deſcribed.

1. Aromatic *Inula*, or Cape Starwort. The ſtalks of this plant are woody, branching, and grow to about two feet high. The leaves are narrow, downy, entire, and come out without order all over the plant. The flowers are produced on footſtalks from the ends and ſides of the branches; they are of a yellow colour, radiated, appear in July and Auguſt, and often continue to ſhew themſelves in the Green-houſe the greateſt part of the winter.

Pine-leaved Inula, or Æthiopian Starwort deſcribed.

2. Pine-leaved *Inula*, or Æthiopian Starwort. The ſtalks of this plant are ſhrubby, branching, and grow to about two or three feet high. The leaves are awl-ſhaped, narrow, three-ſided, and many of them come out in cluſters from the ſame joint, like thoſe of the Larch-tree. The flowers are produced from the ends and ſides of the branches on their own ſeparate footſtalks; they are radiated, and very beautiful; they appear in July and Auguſt, and frequently continue in ſucceſſion for many months.

Culture.

Theſe ſorts are propagated by planting the cuttings in any of the ſummer months. The beds ſhould be moiſt, light, and freſh, and their ſituation ſhould be in the ſhade: For want of this, they ſhould be ſhaded with mats at firſt, and duly watered; and in a very little time they will ſtrike root. When they are in a good growing ſtate the mats ſhould be taken off by degrees, and in the autumn the plants ſhould each be ſet in a ſeparate pot. At this time they ſhould be well watered, and ſet in the ſhade until they have taken freſh root; they ſhould then be ſet in a warm, well-ſheltered place full upon the ſun, where they may ſtand until November, unleſs very hard weather ſets in; after that they ſhould be removed into the Green-houſe for their winter-lodgings, and have ſimilar treatment with other hardy Green-houſe plants.

Titles.

1. Aromatic *Inula*, or Cape Starwort, is titled, *Inula foliis linearibus integerrimis ſparſis, caule fruticoſo.* Plukenet calls it, *Aſter fruteſcens luteus Mauritanicus.* It grows naturally at the Cape of Good Hope. Aroma-tica.

2. Pine-leaved *Inula*, or Æthiopian Starwort, is titled, *Inula foliis ſubulato-linearibus triquetris confertiſſimis, caule fruticoſo.* Breynius calls it, *Jacobæa Æthiopica, laricis folio.* It grows naturally in Æthiopia. Pinifo-lia.

CHAP. XCVIII.

JUSTICIA, MALABAR NUT.

IN a good Green-houſe may be preſerved the Malabar Nut-tree.

The plant deſcribed.

The ſtem is upright, ſtrong, woody, ſends forth numerous ſpreading branches, and grows to be fourteen or fifteen feet high. The leaves are ſpear-ſhaped, oval, and grow oppoſite in pairs. The flowers are produced in ſpikes from the ends of the branches; they are of a white colour, with dark ſpots; and they appear in July, but are not ſucceeded by ſeeds in England.

Culture.

This ſpecies is propagated by layers or cuttings. The operation by layers muſt be performed on the young branches in the autumn; before the autumn following they will have ſtruck root, and ſhould be taken off and potted ſeparately. The cuttings may be planted in any of the ſummer months; but the beſt time is June and July, that the plants may have time to harden before the autumn. They ſhould be ſet in pots filled with light garden-mould, and be plunged into a hotbed of tanner's bark. Here they muſt be watered and kept ſhaded until they have taken root, and afterwards ſhould be hardened by degrees to the open air. When this is effected, they ſhould be ſet abroad in ſome warm, well-ſheltered place, where they ſhould remain until the autumn, and be then taken into the Green-houſe, with the more tender kinds of Green-houſe plants. In the ſpring they muſt be among the laſt that are ſet abroad out of the Houſe; and in ſummer, during their reſidence in the open air, they muſt be regularly and frequently ſupplied with water, as often as dry weather makes it neceſſary, or they will become ſtunted, their progreſs be retarded, and their beauty diminiſhed.

They are alſo raiſed by ſeeds; and this is the beſt way of raiſing theſe trees, when the ſeeds can be procured good. They muſt be ſown in pots filled with light, rich earth, and be plunged into a hotbed of tanners-bark. When the plants are three or four inches high they muſt be potted ſeparately, be again plunged into the bark-bed, be watered and ſhaded until they have taken root; after that they ſhould have a large ſhare of air, but they ſhould not be ſet abroad this firſt ſummer, and in the autumn muſt be taken into a temperate ſtove, to be preſerved through the winter. The next ſummer they may be ſet abroad in ſome warm, well ſheltered place; but in the autumn they ſhould be taken again into the ſtove. Such tender treatment ſhould be afforded them for two or three years, by which time they will become ſtrong plants, and may be afterwards ſtationed in the Green-houſe, like the layers and cuttings.

Titles. Adhatoda.

The Malabar Nut-Tree is titled, *Juſticia arborea, foliis lanceolato-ovatis, bracteis ovatis perſiſtentibus, corollarum galeâ concavâ.* In the *Hortus Cliffort.* it is termed, *Juſticia foliis ovato-lanceolatis, ſpicis folioſis, florum galeâ concavâ.* Herman calls it, *Adhatoda Zeylanenſium*; and Rivinus, *Ecbolium.* It grows naturally in Ceylon.

CHAP. XCIX.

IXIA.

A Few ſpecies of the *Ixia* have been already recommended for the Perennial Flower-garden; thoſe for the Green-houſe are,

Species.

1. The African *Ixia.*
2. The Cape *Ixia.*
3. The Bulbiferous *Ixia.*
4. The Flexuoſe-ſtalked *Ixia.*
5. The White Cluſtered-ſpiked *Ixia.*
6. The Elongated-ſpiked *Ixia.*
7. The Yellow Corymbous-flowering *Ixia.*

The African,

1. The African *Ixia* is ſo called for diſtinction only; for they are all natives of one part or other of Africa. This ſpecies is a very low plant, and of little figure. Immediately from the root proceed ſeveral graſſy, veined leaves; among theſe ariſes the ſtalk, which will grow to about four inches high. This ſupports the flowers, which are collected in downy heads. The time of flowering varies by different management, and it ſeldom produces good ſeeds in theſe parts.

Cape,

2. The Cape *Ixia.* This plant hath a bulbous root, from which iſſue a few green, narrow leaves. The ſtalk is cornered, and the flowers are produced in a corymbus; they are of a fine blue colour, but ſeldom produce any ſeeds in theſe parts.

Bulbiferous,

3. The Bulbiferous *Ixia.* The leaves of this plant are narrow, and about half a foot in length. The ſtalk will grow to upwards of a foot in height, and produces both leaves, bulbs, and flowers. The leaves are placed at the joints, where they embrace the ſtalk, and grow erect. At the wings of the leaves grow the bulbs, which if planted will grow, and become good plants. The flowers are produced on the upper part of the ſtalk from the joints, in the alternate way; they are of a whitiſh-yellow colour, and are ſometimes ſucceeded by good ſeeds in our gardens.

Flexuoſe-ſtalked,

4. Flexuoſe-ſtalked *Ixia.* The root of this plant is a ſmall, round bulb. The leaves are very narrow, ſmooth, ſoft to the touch, and of a dark-green colour: Between theſe ariſes the flower-ſtalk; it is round, a little flexuoſe, and will grow to about a foot and an half in length. The top of it is ornamented with a ſpike of flowers, ſitting cloſe; ſome are of a pure-white colour, tho' they are ſometimes tinged with violet on the outſide, and ſtained with yellow at the bottom of the inſide. It flowers in May or June, and the ſeeds ripen in Auguſt.

White Cluſtered-ſpiked,

5. White Cluſtered-ſpiked *Ixia.* The root of this plant is a ſmall, round bulb. The leaves are narrow, and about half a foot in length. The ſtalk is very ſlender, round, and will grow to about ten inches high; the top of it is terminated by a large, looſe ſpike of flowers; the ſides alſo near the top are garniſhed with a few ſmaller ſpikes, in the alternate way; their colour is a pure white; they will be in blow in June, and their ſeeds ripen in Auguſt.

Elongated-ſpiked,

6. Elongated-ſpiked *Ixia.* This plant hath a ſmall, bulbous root, from which iſſue a few ſword-ſhaped ſtriated leaves; among theſe ariſes the ſtalk, the top of which is garniſhed with an elongated ſpike of very beautiful flowers; their colour is a fine violet; they will be in blow in May or June, but are not always ſucceeded by good ſeeds.

and Yellow Corymbous-flowering Ixia deſcribed.

7. Yellow Corymbous-flowering *Ixia.* The root of this plant is an oval, compreſſed bulb, from which proceed a few narrow, ſword-ſhaped leaves; they are of a thin conſiſtence, and will grow to about a foot in length. The ſtalk is very ſlender, naked, and comes out a little above the leaves; the top of it is terminated by a corymbus, and the ſides alſo near the top have a few cluſters of flowers growing in the alternate way; they are of a deep-yellow colour, and each of the petals has a large black ſpot at the baſe; they will be in blow in May, and their ſeeds will be ripe in June.

Culture.

All theſe ſorts are eaſily propagated by parting of the roots, for they multiply very faſt this way. The beſt time for this is in the ſummer, a few weeks after they have done flowering; a good light, freſh mould ſhould be ready for their reception; and the bulbs ſhould be planted in pots, which ſhould be removed into a ſhady place until October, when they ſhould be ſet in the Green-houſe, with other plants of that nature. The ſtronger bulbs will flower the ſummer following, and the weaker the ſummer after. All this time an eye muſt be had to the pots, that the mice do not find them out; for they are ſo fond of the root, that they will burrow for them, and ſoon devour them. The roots alſo are eſculent, and are eaten by the inhabitants of the countries where they naturally grow.

Theſe plants are alſo propagated by ſeeds, and by this method freſh varieties may be expected; for moſt of the before-mentioned ſpecies admit of many varieties, and their flowers are of different tinges, complexions, and colours. The beſt time for ſowing the ſeeds is in September: They ſhould be ſown in pots or boxes, and placed under an hotbed frame all winter. In the ſpring, they ſhould be ſet abroad, in a place where they may receive the morning ſun until about ten of the clock; the plants will readily come up, and they muſt have frequent waterings. In July or Auguſt the bulbs may be removed, though they will be ſtronger if they are ſuffered to remain until the year following, and which I rather recommend. The preceding winter, therefore, let them be removed under the frame as before; and in the ſummer let the roots be planted each in a ſeparate pot filled with good, light earth. In October remove them into the Green-houſe; the ſummer following the ſtrongeſt will ſhew their flowers, and the weaker roots alſo will ſucceed them in order.

Titles. Africana. 1. African *Ixia* is titled, *Ixia floribus capitatis, ſpathis laceris.* Burman calls it, *Ixia foliis ad radicem nervoſis gramineis, floribus ac fructu convolutis.* It grows naturally at the Cape of Good Hope.

Corymbosa. 2. The Cape *Ixia* is titled, *Ixia floribus corymboſis pedunculatis, caule ancipiti.* It grows naturally at the Cape of Good Hope.

3. Bulbiferous *Ixia* is titled, *Ixia foliis linearibus, axillis bulbiferis, floribus alternis, ſtaminibus lateralibus.* It is a native of the Cape of Good Hope. Bulbifera.

4. Flexuoſe-ſtalked *Ixia* is titled, *Ixia foliis linearibus, racemo flexuoſo multifloro.* Miller calls it, *Ixia foliis linearibus, floribus ſpicatis ſeſſilibus.* It grows naturally at the Cape of Good Hope. Flexuosa.

5. White Cluſtered-ſpiked *Ixia* is titled, *Ixia foliis linearibus, ſcapo ſpicis pluribus.* Miller calls it, *Ixia foliis lineari-lanceolatis, floribus alaribus & terminalibus.* It is a native of the Cape of Good Hope. Polystachia.

6. Elongated-ſpiked *Ixia* is titled, *Ixia foliis enſiformibus ſtriatis, ſpicâ elongatâ.* It grows at the Cape of Good Hope. Scillaris.

7. Yellow Corymbous-flowering *Ixia* is titled, *Ixia foliis enſiformibus, floribus alternis, petalis baſi hyalinâ maculâ.* Miller calls it, *Ixia foliis gladiatis, floribus corymboſis terminalibus.* This alſo grows naturally at the Cape of Good Hope. Crocata.

CHAP. C.

KIGGELARIA.

THERE is at preſent but one known ſpecies of this genus, called, *Kiggelaria.*

The plant deſcribed. The ſtem is woody, upright, ſends out many ſmooth, purpliſh branches near the top, and grows to be 16 or 18 feet high. The leaves are oblong, pointed, ſerrated, ſtiff, grow alternately on ſhort footſtalks, and continue green all the winter. The flowers come out in cluſters from the ſides of the branches; they are dioecious, and of a greeniſh-white colour; they appear in May, and the females are ſucceeded by globular, rough, coriaceous capſules, containing the ſeeds, which ſeldom ripen in England.

Culture. This plant is propagated by the ſeeds, which muſt be procured from the countries where they naturally grow. They muſt be ſown in pots filled with light, rich earth, and plunged into a hotbed of tanners bark. When the plants are three inches high, they muſt be carefully taken up, and planted ſeparately in pots filled with the like kind of light, rich, garden mould. When this is done, they muſt be again plunged into the hotbed, and watered and kept ſhaded until they have taken root; after which, they ſhould be hardened by degrees to the open air. When this is effected, they may be ſet abroad until the autumn, and then be taken into ſhelter with the more tender kinds of Green-houſe plants; though, if there is the convenience of a ſtove, it will be a better way to let them remain in the hotbed until the autumn, and then take them into the moſt temperate ſtove for the firſt winter. Before the next they will become ſtrong plants, and will ſucceed very well in a good Green-houſe. They muſt be ſet abroad with the laſt from the Houſe, but muſt be among the firſt of thoſe that are taken into ſhelter in the autumn when young; but they become hardier as they grow older, and may be treated accordingly.

They are alſo propagated by layers. This operation ſhould be performed on the young ſhoots as they are growing in the ſummer, otherwiſe they will be two years or longer before they ſtrike root. When the layers are well rooted they muſt be taken off, planted ſeparately in pots, be ſet abroad in ſome warm, well-ſheltered place, where they ſhould be frequently watered during the ſummer ſeaſon, and in the autumn be taken into ſhelter, like the ſeedlings.

They are alſo raiſed by cuttings; but it is with ſome difficulty that they are made to ſtrike root this way. The beſt method is to plant them in pots in the ſpring, plunge them into a good hotbed of tanners bark, water them, and keep them cloſe. Some of them by this means will grow; when they ſhould be hardened by degrees to the open air, be potted ſeparately, and afterward managed like the layers.

There being no other ſpecies of this genus it is ſimply named, *Kiggelaria.* Herman calls it, *Euonymo affinis Æthiopica ſempervirens, fructu globoſo ſcabro, foliis ſalicis rigidis ſerratis.* It grows naturally in Æthiopia. **Titles.** Africana.

Kiggelaria is of the claſs and order *Dioecia Decandria*; and the characters are, **Claſs and order in the Linnæan Syſtem. The characters.**

I. Male.

1. Calyx is a monophyllous, concave perianthium, divided into five ſpear-ſhaped, concave ſegments.

2. Corolla conſiſts of five ſpear-ſhaped, concave petals, ſomewhat longer than the calyx.

The nectarium conſiſts of an obtuſe, three-lobed, depreſſed, coloured gland, ſituated at the baſe of each petal.

3. Stamina are ten ſmall filaments, having oblong antheræ, ſhorter than the calyx.

II. Female.

1. Calyx is a perianthium as in the males.

2. Corolla is the ſame as the males.

3. Pistillum conſiſts of a roundiſh germen, and five ſimple ſtyles, with obtuſe ſtigmas.

4. Pericarpium is a globular, rough, coriaceous capſule, formed of five valves, and containing one cell.

5. Semina. The ſeeds are many, roundiſh, and angular on one ſide.

* * *

CHAP. CI.

LACHNEA.

Species.

THERE are two ſpecies of this genus, called,

1. Single-headed *Lachnea.*
2. Cluſter-headed *Lachnea.*

Single-leaved, and Cluſtered headed Lachnea deſcribed.

1. Single-headed *Lachnea.* The ſtalk is upright, woody, branching near the top, and grows to three or four feet high. The leaves are quadrifariouſly imbricated, trigonal, and obtuſe. The flowers terminate the branches in ſingle, downy heads, ſurrounded with white wool; they appear in July and Auguſt, but the ſeeds ſeldom ripen in England.

2. Cluſtered-headed *Lachnea.* The ſtalk of this plant is upright, woody, and grows to two or three feet high. The leaves are narrow, and looſely diſpoſed. The flowers are collected in ſmall heads, growing in cluſters at the top of the ſtalk; they appear about the ſame time with the former, but are rarely ſucceeded by ſeeds in theſe parts.

Culture.

Theſe are propagated by planting the cuttings, in any of the ſummer months, in beds of common garden mould made fine. They muſt be cloſely covered down at firſt with bell or hand-glaſſes; or, if the cuttings be numerous, with mats laid on hoops, provided for that purpoſe. They muſt be duly watered; and as they ſhew good ſigns of growth, they muſt have air proportionably allowed them, to prevent their drawing weak. This muſt be continued to be allowed them, until they are hardened to the full air; then the covering muſt be wholly taken away, water muſt be given the plants, and in about three weeks they will be fit to remove. Their removal muſt be into pots filled with good garden mould, a ball of earth being preſerved to each root; a good watering muſt be afforded them, and they muſt be ſet in the ſhade until they are eſtabliſhed in their new apartments. When this is effected, they muſt be placed in a warmer ſtation, where they may remain until the end of October, and then be taken into the Green-houſe with other exotics.

They are alſo raiſed by ſeeds. Theſe muſt be ſown on a hotbed, in the ſpring. When the plants are fit to remove, they muſt be potted ſeparately, and plunged into a ſlight hotbed; where they ſhould be watered and ſhaded until they have taken root, and be afterwards managed like the cuttings.

1. The firſt ſpecies is titled, *Lachnea capitulis ſolitariis lanatis, foliis quadrifariam imbricatis.* It grows naturally in Æthiopia. Eriocephala.

2. The ſecond ſpecies is titled, *Lachnea capitulis confertis, foliis laxis.* Plukenet calls it, *Thymelæa Africana, polii anguſtioribus foliis, floribus in capitulis ſummo caule conglomeratis*; and Breynius, *Sana munda* 3. *Cluſii affinis, polii folio.* It grows naturally at the Cape of Good Hope. Conglomerata.

Claſs and order in the Linnæan Syſtem. The characters.

Lachnea is of the claſs and order *Octandria Monogynia*; and the characters are,

1. Calyx is a monophyllous, permanent perianthium, having a long, ſlender tube, and the limb divided into four unequal parts; the upper ſegment being ſmall, and erect; the other three ſegments reflexed, and the middle one the largeſt.

2. Corolla. There is none.

3. Stamina are eight erect, ſetaceous filaments, almoſt as long as the flowers, having ſimple antheræ.

4. Pistillum conſiſts of an oval germen, and a filiforme ſtyle, inſerted in the ſide of the germen, and the length of the ſtamina, with a hiſpid, capitated ſtigma.

5. Pericarpium. There is none. The fruit is lodged in the bottom of the calyx.

6. Semen. The ſeed is one, oval, oblique, and acute.

CHAP. CII.

LANTANA, AMERICAN *VIBURNUM.*

Species. TWO noted ſhrubs of our Green-houſes are ſuppoſed to belong to this genus, called,

1. African *Lantana*, or *Ilex*-leaved Jeſſamine.
2. Sage-leaved *Lantana.*

African, 1. African *Lantana*, or *Ilex*-leaved Jeſſamine. The ſtalk of this plant is woody, ſends forth branches without order, and grows to be five or ſix feet high. The leaves are oval, pointed, ſawed on the edges, and are placed alternately, ſitting cloſe to the branches. The flowers come out ſingly from the wings of the leaves; they are of a white colour, appear great part of the ſummer, but are not ſucceeded by ſeeds in England.

and Sage-leaved Lantana deſcribed. 2. Sage-leaved *Lantana.* The ſtalk of this plant is woody, branching, and grows to four or five feet high. The leaves are oblong, narrow, pointed, rough, and grow oppoſite to each other, ſitting cloſe, and ſurrounding the ſtalk with their baſe. The flowers come out in ſmall bunches from the wings of the leaves, near the upper ends of the branches; they appear in July, and continue in ſucceſſion until the end of the ſummer.

Culture. Theſe plants are propagated by planting the cuttings, about midſummer, in pots filled with rich, loamy earth. The pots ſhould then be ſet in the Green-houſe in the ſhade, and if duly watered the plants will ſoon ſtrike root. When this is effected, they ſhould be ſet nearer the windows, for the benefit of the air, or they will ſoon draw weak, and be bad-coloured. When they are in a good growing ſtate, they may be ſet abroad in ſome warm, well-ſheltered place; where they may remain until the autumn, and then be removed into the Green-houſe, with the tender ſorts of plants. In winter they muſt have much free air on all favourable occaſions, and in ſummer muſt be ſet abroad, with other Green-houſe plants, to increaſe the variety.

1. The firſt ſpecies is titled, *Lantana? foliis alternis ſeſſilibus, floribus ſolitariis.* Commeline calls it, *Jaſminum Africanum, ilicis folio, flore ſolitario ex alis foliorum proveniente.* It grows naturally in Æthiopia. Titles. Africana.

2. The ſecond ſpecies is titled, *Lantana? foliis oppoſitis ſeſſilibus, floribus racemoſis.* Herman calls it, *Frutex Africanus, foliis conjugatis ſalviæ anguſtis, floribus hirſutis.* It grows naturally in Æthiopia. Salvifolia.

CHAP. CIII.

LAVATERA.

OF this genus is a beautiful ſpecies, called, the Cape *Lavatera.*

The plant deſcribed. The ſtalk of this plant is woody, grows to the height of ſix or eight feet, and divides irregularly into a few branches near the top. The leaves are ſeptangular, broad, and downy, and they grow alternately on the branches. The flowers come out in cluſters from the ends of the branches, are ſmall, and of a bright-purple colour; appear early in the ſummer, continue in ſucceſſion until the autumn, and afford plenty of good ſeeds for increaſe.

Culture. This plant is eaſily raiſed from ſeeds. Theſe ſhould be ſown in March, on a bed of light earth, covering them a quarter of an inch deep; or if it be on a hotbed, they will come up the earlier; however, either way, they will come up in plenty. When they are ſtrong enough to remove, they ſhould be planted in pots, and ſet in the ſhade until they have taken root. Afterwards they ſhould be placed with Myrtles, &c. and at the end of the autumn, remove them, with thoſe and other hardy exotics, into the Green-houſe, letting them have as much air as poſſible in winter; for protection from hard froſts is all they require. As the plants increaſe in ſize, the pots muſt be proportionally larger. The mould they are to be planted in ſhould be rich and light, being compoſed of a fourth part of drift-ſand, a fourth part of rotten cows-dung, and double the quantity of common garden-mould. In ſuch a compoſition they will grow beſt; though they will ſucceed very well in almoſt any common garden-mould that is rich and light, without further trouble.

This ſpecies is titled, *Lavatera caule fruticoſo, foliis ſeptemangularibus tomentoſis plicatis, racemis terminalibus.* Tournefort calls it, *Althæa fruteſcens Luſitanica, folio ampliore incano.* It grows naturally in Luſitania, and at the Cape of Good Hope. Titles. Lusita-nica.

CHAP. CIV.

LAURUS, THE BAY-TREE.

OF this genus there are four ſpecies fit for the Green-houſe, commonly called,

1. The Noble Bay-Tree.
Species. 2. Carolina Bay-Tree.
3. Indian Bay-tree.
4. Camphire-Tree.

The Noble, 1. The Noble Bay-Tree. By this is meant the Common Bay-Tree of our Ever-green wilderneſſes. It is found growing by houſe-ſides, and in old gardens, &c. all over England. Several ſorts of it are preſerved in Green-houſes in winter, known by the names of the Broad-leaved Bay, the Narrow-leaved Bay, the Curled-leaved Bay, &c. Theſe have originally ariſen from ſeeds brought from the warmer parts of the world, and therefore it has been pretended that they are too tender to ſtand abroad in our climate. Be this as it will, I have raiſed all the ſorts, at leaſt ſo near that no difference could be perceived from the ſeeds gathered from the Common Bay-Tree; and which, being equally hardily treated at firſt, have proved themſelves equally hardy hereafter; ſuch as the Broad-leaved Bay-Trees of different ſizes, Narrow-leaved, Curled-leaved, and ſome with leaves nearly round: So that the ſorts preſerved in our Green-houſes being ſimilar varieties of this ſpecies, it is paſt a doubt, if they were properly trained at firſt, that they would want no Green-houſe, except in ſuch hard winters as will for the moſt part deſtroy the Common Bay-Tree; and that the ſorts only which are too tender to live abroad without protection are,

Carolina, 2. The Carolina Bay-Tree. This ſpecies riſes with an upright, ſtrong ſtem, to fifteen or twenty feet high. The leaves are long, ſpear-ſhaped, reflexed on their edges, tranſverſely veined, of a bright-green colour on their upper ſide, but downy underneath, and continue on the plant all the year. The flowers are produced in long bunches from the wings of the leaves, growing on longiſh, red footſtalks; and they are ſucceeded by large blue berries, ſituated in red cups. This ſort will live abroad through our common winters; ſo that when there is plenty of plants, a ſhare may be planted in the warmeſt, beſt ſheltered parts of the Ever-green wilderneſs quarter, where they will greatly enrich the variety, and look very beautiful. The wood has a fine grain, and is in high eſteem with cabinet-makers, &c.

Indian, 3. Indian Bay-Tree is a ſtill more tender plant than the former, but will nevertheleſs do very well in a common Green-houſe. It will grow to be upwards of twenty feet high. The ſtem is upright, firm, and ſends forth branches regularly on every ſide. The leaves are large, ſpear-ſhaped, veined, of a thick ſubſtance, ſmooth, of a light-green colour, grow on reddiſh footſtalks, and continue all the year. The flowers come out from the wings of the leaves in bunches; they are of a whitiſh-green colour, and are ſucceeded by very large, oval berries, which are black when ripe. This ſpecies among gardeners goes by the various names of, 1. Baſtard Cinnamon, 2. The Portugal Bay-Tree. 3. The Royal Bay-Tree. It is propagated in amazing plenty in Portugal, where the ſeeds ripen well, and from whence we may eaſily procure them.

and Camphire-Tree. 4. Camphire-Tree is a large timber-tree in the countries where it naturally grows, and affords the Camphire of the ſhops. The trunk is upright, covered with a rough, grey bark, and ſends forth numerous branches, the young ſhoots of which are of a greeniſh colour. The leaves are ſpear-ſhaped, oval, triple-nerved, ſharp-pointed, of a bright-green colour on their upper ſurface, but greyiſh underneath, and come out without order on hollowed footſtalks about an inch in length. The flowers come out from the wings of the leaves in cluſters, growing three or four together on a footſtalk; they are ſmall, of a white or yellow colour, and are ſucceeded by ſmall, globular fruit, which, when ripe, is of a gloſſy black colour.

Every part of this tree, the wood, branches, young ſhoots, and leaves, ſmells ſtrong of Camphire, which is prepared from the wood by ſublimation.

Culture. 1. The propagation of all theſe ſorts may be effected by layers, which is the uſual method of continuing the varieties of the firſt, ſecond, and third ſorts; but the Camphire-Tree is with difficulty made to ſtrike root this way; and plants of the firſt two ſpecies are, for the moſt part, greatly inferior in beauty to thoſe raiſed from ſeeds; ſo that the beſt way of propagating all theſe ſpecies is,

2. From ſeeds. Theſe ſhould be procured from the places where they naturally grow, and ſhould be ſown in pots, or boxes, filled with light, rich earth. They generally lie two years in the ground before they come up, if not forced; a practice I would by no means adviſe at firſt, becauſe the plants which have ariſen from ſeeds that have lain in the ground their uſual time, have always been the ſtrongeſt, the moſt compact, and have ever after proved the moſt beautiful. After the ſeeds, however, have been in the pots one year, in the ſpring it will be neceſſary to plunge the pots into a ſlight hotbed: This will ſet them a growing to ſome purpoſe; then they muſt have plenty of air and frequent watering, which muſt be continued till about the middle of July. By that time the plants will be fit to remove, when each ſhould be ſet in its own ſeparate ſmall pot, and plunged into a ſecond hotbed, to facilitate its growth; they muſt be conſtantly ſhaded, and frequently watered, until they have taken root; and as ſoon as you find this effected, muſt be

hardened by degrees to the air, and afterwards the glaſſes muſt be entirely taken off. From this time, they may remain in the hotbed fully expoſed to all weather, as it ſhall happen, until ſuch time as plants of a ſimilar tenderneſs ſhould be removed into the Green-houſe for their winter-lodging, when they ſhould be taken in with them.

From time to time they muſt be ſhifted into larger pots, as they encreaſe in ſize, and finally into tubs; the earth ſhould be always light, rich, and freſh, and then they will meet with little check in their progreſs, will aſſume the moſt beautiful appearance, and arrive at perfection in the leaſt time.

Titles. Nobilis. 1. The Bay-Tree is titled, *Laurus foliis venoſis lanceolatis perennantibus, floribus quadrifidis dioicis.* The varieties are called, *Laurus latifolia Dioſcoridis, Laurus tenuifolius,* &c. It grows naturally in Italy and Greece.

Borbonia 2. Carolina Bay-Tree is titled, *Laurus foliis venoſis lanceolatis, calycibus fructus baccatis.* Cateſby calls it, *Laurus Caroliniensis, foliis acuminatis, baccis cæruleis, pedicellis longis rubris inſidentibus*; and Plumier, *Borbonia fructu oblongo nigro, calyce coccineo.* It grows naturally in Carolina and Virginia.

Indica. 3. Indian Bay-Tree is titled, *Laurus foliis venoſis lanceolatis perennantibus planis, ramulis tuberculatis cicatricibus, floribus racemoſis.* Plukenet calls it, *Laurus Indica*; and Barrelier, *Laurus latifolia Indica.* It grows common in Virginia.

Camphora. 4. Camphire-Tree is titled, *Laurus foliis triplinerviis lanceolato-ovatis.* In the *Hortus Cliffort.* it is termed, *Laurus foliis ovatis utrinque acuminatis trinerviis nitidis, petiolis laxis.* Kæmpfer calls it, *Laurus camphorifera*; Breynius, *Arbor camphorifera Japonica*; and Caſpar Bauhine, *Camphora officinarum.* It is a native of Japan.

CHAP. CV.

LEUCADENDRON.

Of this genus are ſeveral ſpecies, called,

Species.

1. Cyanoide *Leucadendron.*
2. Cinaroide *Leucadendron.*
3. Rough *Leucadendron.*
4. Short-ſtalked *Leucadendron.*
5. Creeping *Leucadendron.*
6. Racemoſe *Leucadendron.*
7. Proteoide *Leucadendron.*
8. *Scolymophalum.*
9. *Conocarpodendrum.*
10. *Lepidocarpodendron.*
11. *Hypophyllocarpodendron.*
12. Abrotanoide *Leucadendron.*

Cyanoide Leucadendron deſcribed. 1. Cyanoide *Leucadendron.* The ſtalk of this plant is woody, upright, firm, ten or twelve feet high, and divides into many ſlender branches, which are for the moſt part tinged with red. The leaves are numerous, elegant, ſmall, and are uſually divided at the extremity into three capillary ſegments. The flowers are collected in ſmall heads at the extremity of the branches; the ſcales are looſely diſpoſed, and the flowers have a downy look on their outſide; they appear in September, but are rarely ſucceeded by ſeeds in England.

Cinaroide 2. Cinaroide *Leucadendron.* The ſtem of this ſpecies is thick, woody, branching, and eight or ten feet high. The leaves are almoſt heart-ſhaped, oval, and ſome of them are ſpeared; they are of a thickiſh ſubſtance, rigid, ſpreading, and grow on long, thick footſtalks. The flowers are produced in ſmooth, ſpreading heads, at the ends of the branches; they are of a purple colour, appear in Auguſt and September, but the ſeeds rarely ripen here.

Rough, 3. Rough *Leucadendron.* The ſtalk of this ſpecies is woody, rough, and hairy. The leaves are ſpear-ſhaped, ſhort, of a whitiſh colour, and grow in cluſters on the ſides of the branches. The flowers are produced in long heads, from the wings of the ſtalks; but they are ſparingly produced, and generally fall off without being ſucceeded by ſeeds in theſe parts.

Short-ſtalked, 4. Short-ſtalked *Leucadendron.* The ſtem of this ſpecies is of a woody ſubſtance, but very ſhort. The leaves are ſpear-ſhaped, grow alternately, and are of a red colour on their edges and mid-rib. The flowers come out ſingly from the tops of the ſtalks, and are ſucceeded by ſmall roundiſh ſeeds, which ſeldom ripen in England.

Creeping, 5. Creeping *Leucadendron.* This ſpecies hath a creeping root, which ſpreading under the ſurface ſends forth ſeveral ligneous ſtalks, and thereby in a little time forms a buſh, that occupies a conſiderable portion of ground. The leaves are ſpear-ſhaped, long, and narrow. The flowers are produced in ſcaly heads at the extremity of the branches; they are of moſt exquiſite beauty, the heads being finely variegated or tinged with the different colours of that of the Roſe, dark-red, yellow, and white; and the ſeeds which ſucceed them are finely variegated with red and white.

Racemoſe 6. Racemoſe *Leucadendron.* The ſtalks of this ſpecies are upright, woody, and divided into many ſlender branches near the top. The leaves are extremely narrow and briſtly, and come out from every ſide of the branches. The flowers are produced in looſe bunches from the ends and ſides of the branches; they ſhew themſelves in Auguſt and September, and frequently in October and November.

Proteoide 7. Proteoide *Leucadendron.* The ſtalks of this ſpecies are woody, branching, and five or ſix feet high. The leaves are awl-ſhaped, narrow, undivided, and grow in cluſters. The flowers are collected in downy heads at the ends of the branches; they frequently appear in Auguſt, and continue to ſhew themſelves a long time.

Scolymophalum,

8. *Scolymophalum.* This ſpecies riſes with ſeveral woody, branching ſtalks to be two or three feet high. The leaves are ſpear-ſhaped, and adorn the branches on every ſide. The flowers come out from the ends of the branches in roundiſh heads; their colour is various, and very beautiful, being a mixture of red and yellow, eſpecially on the outſide.

Conocarpodendron,

9. *Conocarpodendron.* The trunk of this ſpecies is ſhort, but remarkably thick, and ſends forth ſeveral long, ſlender branches from the top. The leaves are oval, oblong, callous, and indented in five parts at the top. The flowers are produced at the extremity of the branches among the leaves; they are of a golden-yellow colour, and are ſucceeded by the ſeeds, which ſeldom ripen in England.

Lepidocarpodendron,

10. *Lepidocarpodendron.* The ſtem of this ſpecies is upright, woody, and ſends out many ligneous branches from the ſides. The leaves are ſpear-ſhaped, ſmooth, and entire. The flowers are produced among the leaves, near the extremity of the ſhoots; they are finely variegated with white, yellow, black, brown, and purple, and the whole tufts form a beautiful appearance.

Hypophyllocarpodendron,

11. *Hypophyllocarpodendron.* The ſtalks of this ſpecies are numerous from a ſtrong root, woody, and four or five feet high. The leaves are ſpear-ſhaped, narrow, callous, and indented in three parts at the points, and are uſually of a fine red colour. The flowers are of a golden-yellow colour, and coming out along the ſides of the branches among the red leaves, cauſe a fine appearance.

and Abrotanoide Leucadendron.

12. Abrotanoide *Leucadendron.* This ſpecies riſes with a woody, branching ſtalk to be three or four feet high. The leaves are finely divided into a multitude of narrow ſegments, are ſoft to the touch, and of a ſilvery white colour. The flowers are collected in ſingle heads, are of a red colour, and ſhew themſelves in September or earlier, and ſometimes in October and November.

Culture.

Theſe ſpecies may be propagated by ſlips, cuttings, or ſuckers from the root; but the beſt way is to raiſe them from ſeeds, when thoſe can be procured freſh and good. They ſhould be ſown in a hotbed in the ſpring, and when the plants are fit to remove ſhould be potted ſeparately, plunged again into the hotbed, and kept ſhaded and watered until they have taken root, when they ſhould be hardened by degrees to the open air; then they ſhould be ſet abroad in ſome warm well-ſheltered place, and in the autumn be taken into a good Green-houſe, where the warmeſt place ſhould be aſſigned them for their winter lodgings.

Titles.

Cyanoides.

1. The firſt ſpecies is titled, *Leucadendron foliis ſetaceis ſemi-trifidis.* Van Royen calls it, *Protea foliis linearibus ramoſis*; and Plukenet, *Cyanus Æthiopicus, rigidis capillaceis tenuiſſimis foliis trifidis.* It grows naturally at the Cape of Good Hope.

Cinaroides.

2. The ſecond is titled, *Leucadendron foliis integris, floribus depreſſis, corollarum limbis cylindricis.* Wachendorf calls it, *Leucadendron foliis ſubrotundis patentiſſimis petiolatis, foliolis calycinis carinatis*; Boerhaave, *Lepidocarpodendron folio ſubrotundo rigido, in pedunculo longo craſſo, flore maximo purpureo*; Petiver, *Cinaroides frutex, folio ſubrotundo rigido e Monte Tabulari*; and Van Royen, *Protea foliis lanceolatis integerrimis, flore patente glabro, ſtylis longiſſimis.* It grows naturally in moiſt places at the Cape of Good Hope.

Hirtum

3. The third is titled, *Leucadendron foliis lanceolatis apice calloſis, caule hirſuto, floribus ſparſis axillaribus.* Boerhaave calls it, *Lepidocarpodendron foliis ſericeis brevibus confertiſſimis, cono gracili longo.* It grows naturally at the Cape of Good Hope.

Acaulon.

4. The fourth is titled, *Leucadendron foliis lanceolatis, floribus ſubrotundis, caule ſuffruticoſo unifloro.* Van Royen calls it, *Protea caule unifloro, foliis lanceolatis*; Wachendorf, *Leucadendron acaulon*; and Boerhaave, *Lepidocarpodendron acaulon foliis paucis latis, nervo & marginibus rubris ornatis, fructu parvo.* It grows naturally at the Cape of Good Hope.

Repens.

5. The fifth is titled, *Leucadendron foliis lanceolatis, floribus oblongis, calycum ſquamis glabris.* Van Royen calls it, *Protea caule multifloro, calycibus oblongis, foliis lanceolatis integerrimis*; alſo, *Protea caule unifloro, calyce oblongo, foliis linearibus longiſſimis*; Wachendorf, *Leucadendron foliis longiſſimis obtuſè trigonis, longitudine florem ſuperantibus*; and Boerhaave, *Lepidocarpodendron foliis anguſtis brevioribus ſalignis, calycis ſquamis elegantiſſimè ex roſeo aureo albo atrorubro variegatis, florum plumis albis*; alſo, *Lepidocarpodendron foliis longiſſimis anguſtiſſimis fructum elegantiſſimè ex rubro flavo & albo variegatum ſuccingentibus, radice repente.* It grows naturally in gravelly places at the Cape of Good Hope.

Racemosum.

6. The ſixth is titled, *Leucadendron foliis ſetaceis, floſculis disjunctis racemoſis.* In the *Hortus Cliffort.* it is termed, *Protea foliis ſetaceis, floribus racemoſis.* It grows naturally in Æthiopia.

Proteoides.

7. The ſeventh is titled, *Leucadendron foliis ſubulatis, ramis determinatis, floribus terminalibus.* Van Royen calls it, *Protea foliis linearibus ſimpliciſſimis; ramis determinatis, floribus terminalibus.* It grows naturally at the Cape of Good Hope.

Scolymocephalum.

8. The eighth is titled, *Leucadendron foliis lanceolatis, floribus ſubrotundis, caule fruticoſo ramoſo.* Boerhaave calls it, *Lepidocarpodendron acaulon, ramis numeroſis e terrâ excreſcens, calyce floris immaturo, extus ex rubro & flavo variegato, intus flavo.* It grows naturally at the Cape of Good Hope.

Conocarpodendrum.

9. The ninth is titled, *Leucadendron foliis calloſo-quinquedentatis.* Wachendorf calls it, *Leucadendron foliis obverſè ovatis oblongis, margine calloſo fimbriatis, ad apicem crenatis*; Plukenet, *Leucadendron Africana arbor argentea, ſummo folio crenato*; Van Royen, *Protea foliis oblongo-ovatis apice quinquedentato-calloſis*; Boerhaave, *Conocarpodendron folio craſſo nervo lanuginoſo ſuprà crenato ibique limbo rubro, flore aureo, cono facili deciduo*; and Herman, *Scolymocephalus Africanus latifolius lanuginoſus, foliis in ſummitate crenatis.* It grows naturally in Æthiopia.

Lepidocarpodendron.

10. The tenth is titled, *Leucadendron foliis lanceolatis, floribus oblongis, calycum ſquamis ſummis hirſutis.* Van Royen calls it, *Protea foliis lanceolatis integerrimis glabris, calycinis ſupernè villoſis*; alſo, *Protea foliis lanceolatis integerrimis glabris, calycem ſuccingentibus hirſutis*; Boerhaave, *Lepidocarpodendron foliis anguſtis longioribus ſalignis, calycis ſquamis elegantiſſimè ex flavo fuſco albo nigro variegatis, florum plumis atro-purpureis*; alſo, *Lepidocarpodendron folio ſaligno viridi, nervo & margine flavo, cono longo ſuperiore parte maximè clauſo.* It grows naturally at the Cape of Good Hope.

Hypophyllocarpodendron

11. The eleventh is titled, *Leucadendron foliis calloſo-tricuſpidatis ſublanceolatis, calycibus turbinatis nudis.* In the *Hortus Cliffort.* it is termed, *Protea foliis lanceolato linearibus, apice tridentato-calloſis.* Van Royen calls it, *Protea foliis lanceolato-linearibus apice tridentato-calloſis, capitulis aphyllis*; Plukenet, *Leucadendros Africana, ſ. Scolymocephalus folio anguſtiori, apicibus tridentatis*; and Boerhaave, *Conocarpodendron folio rigido anguſto, apice tridentato rubro, flore aurantio.* It is a native of the Cape of Good Hope.

Serraria

12. The twelfth is titled, *Leucadendron foliis ſetaceis multifidis, capitulis ſolitariis.* Plukenet calls it, *Abrotanoides arboreum Monomapatenſe, floribus in ramulorum cymis*; Burman, *Serraria foliis tenuiſſimè diviſis, floribus rubris apetalis*; and Seba, *Anethifolius frutex Africanus, flore ſericeo.* It grows naturally in Æthiopia.

Claſs and order in the Linnæan Syſtem. The characters.

Leucadendron is of the claſs and order *Tetrandria Monogynia*; and the characters are,

1. Calyx. The common perianthium is imbricated, the ſcales being unequal, permanent, and various in their figure and proportion.

2. Corolla. The general flower is convex and uniform; the florets are dipetalous, oblong, and downy on their outſide; the upper petal has a long, narrow unguis, a ſpear-ſhaped, undivided limb, and cloſely adheres in its lower part to the inferior petal; the inferior petal has a long narrow unguis, but three times as broad as the other; the limb is oblong, ſemi-cylindrical, and divided into three ſegments.

3. Stamina are four very ſhort, awl-ſhaped filaments, inſerted in the limb of the corolla, one between each of the ſegments, having an erect, oblong, tubular anthera, which is compoſed of four, that join together in form of a cylinder.

4. Pistillum conſiſts of an oblong germen, a very long awl-ſhaped ſtyle, and a ſimple ſtigma.

5. Pericarpium. There is none.

6. Semen. The ſeed is ſingle, roundiſh, and crowned with hairs; the receptacle is ſometimes naked, ſometimes hairy.

✤ ✤ ✤

C H A P. CVI.

L E Y S E R A.

Species.

There is only one ſpecies of this genus, called, *Leyſera.*

The ſtalk is ligneous, branching, and two or three feet high. The leaves are narrow, pointed, and downy. The flowers are produced from the ends and ſides of the branches; they are of a golden-yellow colour, and very beautiful, appear in July, Auguſt, and September, and are ſucceeded by oblong ſeeds crowned with down.

Culture.

This plant is beſt propagated by ſowing the ſeeds in the ſpring. They will grow, if ſown in the open ground, in beds of light, rich earth, when all danger of bad weather is over; but the beſt way is to ſet them earlier, and bring them forward by a ſlight hotbed. In either caſe, when the plants are fit to remove, they ſhould be planted ſeparately in pots, filled with good, light earth; they muſt be watered and ſet in the ſhade until they have taken root; afterwards they muſt be placed where they can receive the ſun until eleven o'clock; and when the autumn advances, they muſt be ſtationed in the warmeſt part of the garden. About the end of autumn they muſt be taken into ſhelter, and managed like the hardieſt kinds of Green-houſe plants.

Titles.

Gnapha-lodes.

There being no other ſpecies belonging to this genus, it is named ſimply, *Leyſera.* Vaillant calls it, *Aſteropterus luteus, laricis foliis lanuginoſis*; and Herman, *Aſter Æthiopicus, ſtæchadis foliis, flore aureo.* It grows naturally in Æthiopia.

Claſs and order in the Linnæan Syſtem. The characters.

Leyſera is of the claſs and order *Syngeneſia Polygamia Superflua*; and the characters are,

1. Calyx. The common calyx is oval, and imbricated with many obtuſe, concave, ſcarioſe ſcales.

2. Corolla. The compound flower is radiated. The hermaphrodite florets are tubular, and many in the diſk. The females are tongue-ſhaped, and many in the radius.

Each hermaphrodite floret is funnel-ſhaped, and cut into five erect ſegments.

The females are ligulated, ſpear-ſhaped, and undivided.

3. Stamina of the hermaphrodites are five very ſhort capillary filaments, with a tubular, cylindrical anthera.

4. Pistillum of the hermaphrodites conſiſts of a ſmall germen, a filiforme ſtyle, and an emarginated ſtigma.

The females conſiſts of a ſmall germen, a ſhort, filiforme ſtyle, and a bifid ſtigma.

5. Pericarpium. There is none.

6. Semina of the hermaphrodites are ſingle, oblong, and crowned with feathery down.

Thoſe of the females are ſimilar. The receptacle is naked.

CHAP.

CHAP. CVII.

LIMEUM.

WE have at preſent but one ſpecies of this genus, called, *Limeum*.

The plant deſcribed. The ſtalks are weak, angular, naked, and unleſs ſupported lie on the ground. The leaves are narrow, ſpear-ſhaped, ſmall, and grow alternately on ſhort footſtalks. The flowers are collected in roundiſh bunches at the extremity of the ſtalk; they appear in July and Auguſt, and are followed by globular capſules, containing the ſeeds.

Culture. This is propagated by parting of the roots, which may be done in the autumn or the ſpring. They ſhould be ſet in pots filled with good garden mould, and well watered. If the operation is performed in the early part of the autumn, they ſhould be ſet in a ſhady place, there to remain until the time comes on for taking exotics into ſhelter; and then theſe ſhould be removed into the Green-houſe with the others. If the operation is performed in the early part of the ſpring, they ſhould be continued in the Green-houſe until other plants are ſet abroad, and then be ſet out with them, and managed accordingly.

They are alſo raiſed by ſeeds. Theſe are beſt ſown on a hotbed in the ſpring; and when the plants are fit to remove, they ſhould be taken up with a ball of earth to each root, planted ſeparately in pots, then watered and ſet abroad in ſome ſhady place until they have taken freſh root, and afterwards be ſtationed with the other plants, and managed accordingly.

Titles. Africanum. There being no other ſpecies of this genus, it is named ſimply, *Limeum*. It grows naturally in Æthiopia.

Claſs and order in the Linnæan Syſtem. *Limeum* is of the claſs and order *Heptandria Digynia*; and the characters are,

The characters.

1. Calyx is a permanent perianthium, compoſed of five oval, acuminated, carinated, membranaceous leaves.

2. Corolla conſiſts of five oval, obtuſe, ſubunguiculated petals, ſhorter than the calyx.

The nectarium is a rim ſurrounding the germen.

3. Stamina are ſeven awl-ſhaped filaments ſhorter than the corolla, having oval antheræ.

4. Pistillum conſiſts of a globular germen, and a two-parted cylindrical ſtyle ſhorter than the ſtamina, each part having an obtuſe ſtigma.

5. Pericarpium is a globular capſule, containing two cells.

6. Semina. The ſeeds are many.

CHAP. CVIII.

LIMODORUM.

THIS genus at preſent conſiſts only of one ſpecies, called, *Limodorum*.

The plant deſcribed. The root is thick, roundiſh, fleſhy, of a dark brown colour on the outſide, and ſends down ſeveral fibres from the baſe into the ground. The leaves are near a foot long, narrow, and have five longitudinal fibres; are narrow at the baſe, and widen gradually to the middle, from whence they diminiſh gradually to a point. The ſtalk riſes by the ſides of the leaves from the root; it is naked, ſmooth, uſually of a purpliſh colour near the top, and grows to a foot and half high. The flowers come out in looſe ſpikes from the tops of the ſtalks; they are of a reddiſh purple colour, appear in May and June, and the ſeeds ripen in the autumn. It is obſervable that this plant ſometimes flowers in April, and at other times does not ſhew its bloom before September or October.

Culture. It is propagated by offſets from the root; the beſt time for which is the latter end of the autumn, when the leaves decay. They ſhould be ſet in pots filled with good garden mould, and ſet in the Green-houſe. Very early in the ſpring the leaves will appear, when they will require to be frequently watered, tho' they ſhould have it in ſmall quantities at a time. Watering muſt be duly allowed them all ſummer; but in winter, when their roots are inactive, they muſt have very little. Tho' this plant is tolerably hardy, and will ſucceed well in the Green-houſe, yet it does better in a ſtove; ſo that if there is that conveniency, and the pots are then plunged into the bark-bed, they will be more conſtant in flowering, the flowers will be larger, and appear earlier in the ſpring, and with greater certainty be ſucceeded by ripe ſeeds.

Theſe plants are alſo raiſed by ſeeds; but this is a tedious method, as the plants will be three or four years before they come to flower; and as they may be multiplied pretty faſt by offſets, this is a method not worth putting into practice.

Titles. Tuberoſum. There being no other ſpecies belonging to this genus, it is named ſimply, *Limodorum*. Martin calls it, *Helleborine Americana, radice tuberoſâ, foliis longis anguſtis, caule nudo, floribus ex rubro pallidè purpuraſcentibus*; and Plumier, *Helleborine radice arundinaceâ, foliis ampliſſimis lyratis*. It grows naturally in North America.

Claſs and order in the Linnæan Syſtem. The characters.

Limodorum is of the claſs and order *Gynandria Diandria*; and the characters are,

1. Calyx. The ſpathæ are vague. The ſpadix is ſimple.

There is no perianthium.

2. Corolla conſiſts of five oval, oblong, ſubæqual, patent petals, the upper ones being connivent.

The nectarium conſiſts of one concave leaf, the length of the petals.

3. Stamina are two; the filament is an oblong, riſing body the length of the corolla, and is terminated by two oval antheræ.

4. Pistillum conſiſts of a column-ſhaped germen the length of the corolla, and ſituated under the flower; a filiforme ſtyle growing to the ſtamina; and a funnel-ſhaped ſtigma.

5. Pericarpium is a columnar, trivalved capſule, containing one cell, and opening in the angles.

6. Semina. The ſeeds are numerous, and ſcrobiforme.

* * *

C H A P. CIX.

LOTUS, BIRDSFOOT TREFOIL.

THE more tender ſpecies of this genus are,

Species.

1. Cretan Birdsfoot Trefoil.
2. St. James's Birdsfoot Trefoil.
3. Upright Cape Birdsfoot Trefoil.
4. Proſtrate Cape Birdsfoot Trefoil.

Cretan Birdsfoot Trefoil deſcribed.

1. Cretan Birdsfoot Trefoil. The ſtalks of this ſpecies are ſlender, branching a little, and grow three or four feet high; are ligneous, but ſo weak as to require ſupport to keep them in an upright poſition. The leaves are trifoliate, and have two appendages at the baſe of each footſtalk; they are very bright, of a ſilvery-white colour, and give admirable beauty to the plant. The flowers are produced in divided heads, coming out from the ſides of the branches on long footſtalks; they appear in May, June, and July, and are ſucceeded by long taper pods, containing ripe ſeeds in the autumn.

St. James's

2. St. James's Birdsfoot Trefoil. The ſtalks of this ſpecies are erect, ſlender, branching, and about a yard high. The leaves are ſpear-ſhaped, narrow, of a greyiſh colour, and ſome are trifoliate; whilſt others are compoſed of five folioles, which ſit cloſe to the branches, and are a little hoary. The flowers come out three, four, or five together, from the upper parts of the branches, on long, ſlender footſtalks; they are of a yellowiſh-purple colour; ſhew themſelves in ſucceſſion all ſummer, and often in winter; and are ſucceeded by narrow, taper pods, containing the ſeeds.

Upright Cape,

3. Upright Cape Birdsfoot Trefoil. The ſtalks of this ſpecies are upright, ſhrubby, ſend forth ſeveral ſlender, rigid branches from the ſides, and grow about a yard high. The leaves are oval, ſharp-pointed, hairy on both ſides, of a greyiſh colour, and have large, oval, ſpear-ſhaped ſtipulæ on each ſide the footſtalks. The flowers are produced in bunches, coming out from the wings of the leaves on long, branching footſtalks; they appear great part of the autumn, and often in winter; and are ſucceeded by long, ſmooth pods, containing the ſeeds.

and Proſtrate Cape Birdsfoot Trefoil deſcribed.

4. Proſtrate Cape Birdsfoot Trefoil. The ſtalks of this ſpecies are numerous, ſlender, weak, herbaceous, eight or ten inches long, and lie on the ground. The leaves are trifoliate, ſpear-ſhaped, pointed, ſmooth and downy underneath, and have very minute ſtipulæ on each ſide the footſtalks. The flowers are produced ſingly from the ſides of the ſtalks on long, ſlender footſtalks; they appear great part of the ſummer, and are ſucceeded by downy, ſharp-pointed, horizontal pods, containing the ſeeds.

Culture.

Theſe ſorts are all propagated by ſowing the ſeeds on a ſlight hotbed in the ſpring. When the plants are fit to remove, each ſhould be ſet in its own ſeparate pot, and again plunged into a moderate degree of warmth, to facilitate their taking root; they muſt be ſhaded, and duly watered at firſt; and when they are in a good growing ſtate, muſt be hardened to the open air. When that is effected, they ſhould be taken out of the hotbed, and the pots ſhould be plunged up to the rims in common mould in a ſhady, but warm, well-ſheltered place. Here they ſhould remain until autumn, when the firſt ſort ſhould be removed into any common Green-houſe; but the others being more tender, unleſs the Green-houſe be an extraordinary good one, they ſhould be ſet in the glaſs-caſe, or the cooleſt ſtove: In either caſe, every ſummer they ſhould be ſet abroad in a warm, well-ſheltered place, with other tender plants; and early in the autumn ſhould be removed with them to their winter quarters.

The three firſt ſorts are alſo propagated by planting the cuttings, in any of the ſummer months. Theſe ſhould be ſet in a good, rich, light mould, and covered down with bell-glaſſes, and ſhaded from the ſun. When you find them in a growing ſtate, the glaſſes muſt be raiſed by degrees; and when the plants are hardened to the open air, each ſhould be ſet in a pot, preſerving a ball of earth to the root: The pots ſhould be then plunged up to the rims in a ſhady part of the garden; and the plants ſhould be afterwards treated like the ſeedling plants.

Titles.

1. Cretan Birdsfoot Trefoil is titled, *Lotus leguminibus ſubternatis, caule fruticoſo, foliis ſericeis nitidis.* Plukenet calls it, *Lotus argentea Cretica*; and Moriſon, *Lotus polyceratos fruticoſa Cretica argentea, ſiliquis longiſſimis propendentibus rectis.* It grows naturally in Syria, Crete, and Spain.

Creticus.

2. St. James's Birdsfoot Trefoil is titled, *Lotus leguminibus ſubternatis, caule herbaceo erecto, foliolis linearibus.* Commeline calls it, *Lotus angustifolia,*

Jacobæus.

guſtifolia, flore luteo purpuraſcente, inſulæ S. Jacobi. It grows naturally in the Iſland of St. James.

Mauri-tanicus. 3. Upright Cape Bird's-foot Trefoil is titled, *Lotus leguminibus racemoſis, foliolis obovatis villoſis, caule fruticoſo erecto.* It grows naturally at the Cape of Good Hope.

4. Proſtrate Cape Bird's-foot Trefoil is titled, *Lotus leguminibus ſubſolitariis tomentoſis, foliolis acuminatis, ſtipulis minutis, caulibus filiformibus.* It is a native of the Cape of Good Hope. Prostra-tus.

* * *

CHAP. CX.

LYCIUM, BOX-THORN.

Species. OF this genus there are,

1. Narrow-leaved African Box-thorn.
2. Roſemary-leaved Box-thorn.
3. Capſular Box-thorn.

Narrow-leaved, 1. Narrow-leaved Box-thorn. The ſtalks of this plant are woody, ten feet high, irregular, and ſend forth many crooked, knotty branches, which are armed with ſpines, and covered with a white bark. The leaves are narrow, and grow in cluſters; they are of different ſizes on each cluſter, ſome being much longer than the others; and the cluſters of ſmaller leaves ſtand at the baſe of the larger. The flowers come out from the ſides of the branches on ſhort footſtalks; they are of a purple colour, appear in June and July, and are ſucceeded by roundiſh, yellowiſh berries, which ripen in the autumn.

Roſemary leaved 2. Roſemary-leaved Box-thorn is a variety only of the hardy Box-thorns among the Climbers, and is frequently called Prickly-baſtard Jeſſamine. The ſtalks are woody, ſeven feet high, and ſend forth many irregular branches, covered with a whitiſh bark, and armed with thorny ſpines. The leaves are ſpear-ſhaped, thickiſh, whitiſh, and grow irregularly on the branches. The flowers are produced from the ſides of the branches; they are ſmall, and of a white colour; they appear in July and Auguſt, and are ſeldom ſucceeded by ſeeds in England.

There is another variety of this ſpecies with leaves nearly oval, and thick; other ſorts of this ſpecies, with ſtill leſs difference, may be obſerved.

and Capſular Box-thorn deſcribed. 3. Capſular Box-thorn. The ſtalks of this plant are woody, and ſend forth many branches irregularly, which are covered with a whitiſh bark. The leaves are ſmooth, ſpear-ſhaped, and of a thin texture. The flowers come out from the ſides of the branches on downy footſtalks; their cups alſo are downy; they appear in July and Auguſt, but the ſeeds ſeldom ripen in England.

Culture. All theſe plants are eaſily propagated by cuttings, layers, or ſeeds: If by cuttings, it may be performed ſucceſsfully the end of April, or beginning of September. They muſt be planted in pots filled with light, freſh earth; ſhould be plunged up to the rims in a ſhady place, to keep the mould cool; and if they are duly watered, they will ſoon take root. In October they muſt be removed into the Green-houſe; though, when the plants are two or three years old, if the ſoil be naturally warm, well-ſheltered, and there be plenty of plants, a few of the Narrow-leaved ſorts may be ſet abroad, and they will live through our mild winters.

They alſo readily take root by layers. Theſe being laid on the mould in the ſpring, will have ſtruck good root by the autumn, when each may be taken off, planted in a pot, and managed as the cuttings.

Plenty of plants alſo may be ſoon raiſed by ſeeds. Theſe ſhould be ſown as ſoon as poſſible after they are ripe, in pots filled with light, freſh earth. The pots ſhould be ſet under a hotbed-frame all winter, to be covered in froſty weather, and in ſpring ſhould be plunged up to the rims in a hotbed: This will facilitate the growth of the ſeeds. When they are fit to remove, each ſhould be ſet in a ſeparate pot; they muſt then have the benefit of a ſecond hotbed, muſt be ſhaded at firſt, and duly watered, and be hardened by degrees to the open air. When this is effected, they may be planted abroad, plunging them up to the rims in the common mould of the garden, in a well-ſheltered place; where they may remain until the autumn, and then be removed into the Green-houſe, with the other plants.

1. Narrow-leaved African Box-thorn is titled, *Lycium foliis linearibns.* Caſpar Bauhine calls it, *Rhamnus alter, foliis ſalſis, flore purpureo*; Niſſol, *Jaſminoides Africanum, jaſmini aculeati foliis & facie*; and Micheli, *Jaſminoides aculeatum ſalicis folio.* It is a native of Africa. Titles, Afrum.

2. Roſemary-leaved Box-thorn is titled, *Lycium foliis lanceolatis craſſiuſculis, calycibus bifidis.* Plukenet calls it, *Rhamnus peregrinus, roſmarini folio, candidior.* It grows naturally in Barbary. Barbarum

3. Capſular Box-thorn is titled, *Lycium foliis lanceolatis tenuibus glabris, pedunculis calycibuſque pubeſcentibus, pericarpiis capſularibus.* It grows naturally in Mexico. Capsulare.

CHAP. CXI.

MALVA, MALLOW.

The plant deſcribed.

OF this genus is that admirable ſpecies commonly called, the African Shrub-Mallow. This plant is a great ornament to the Green-houſe, and is richly deſerving of all due attention and care. It will grow to be eight or ten, and ſometimes twelve feet high. The ſtem is firm, and the ſide-branches are numerous and hairy. The leaves are ſmooth, and nearly of a cordated figure; their edges are indented in a manner ſo as to cauſe them to have the appearance of the leaf of the common Gooſe-berry Buſh; they are of a whitiſh-green colour, and ſtand on long footſtalks on the branches. The flowers are large, and of a bright-red colour, with purple bottoms; they are ſhaped very much like thoſe of the Common Mallow, and are produced on long footſtalks from the ſides of the branches. This ſhrub will be in blow the greateſt part of the year; and the flowers are ſucceeded by good ſeeds, from which plenty of good plants may be raiſed.

There are two or three varieties of this ſpecies of very immaterial difference, and of which ſome may be expected whenever a quantity of theſe plants is raiſed.

Culture.

The culture is very eaſy. Sow the ſeeds early in the ſpring on a hotbed, to forward their growth; harden them by degrees, and afterwards plant them in ſmall pots filled with a good, rich ſoil, mixed with drift ſand. Let a ball of earth be kept to each plant, if poſſible, at the removal, and the pots be ſet in the ſhade; they will ſoon take root; and watering in dry weather muſt be conſtantly attended to. In the autumn, take them into the Houſe, with other hardy plants of that nature; and in the ſpring, each plant will call for a larger-ſized pot. When this is done, let the pot be filled with the like kind of ſandy earth as before; ſet them in a ſhady place, where they can have the free air, water them as often as there ſhall be occaſion, and you may expect to ſee many of them in blow before the end of July.

Titles. Capensis.

This ſpecies is titled, *Malva foliis ſubcordatis laciniatis glabris caule arboreſcente.* Commeline calls it, *Malva Africana fruteſcens, flore rubro*; Dillenius, *Malva Capenſis fruteſcens, groſſulariæ folio minori glabro*; alſo, *Malva Capenſis fruteſcens, groſſulariæ folio majore hirſuto*; and Plukenet, *Malva Africana fruteſcens, flore parvo carneo unguiculis atro-rubentibus.* It grows naturally in Æthiopia.

CHAP. CXII.

MEDEOLA, CLIMBING AFRICAN ASPARAGUS.

THERE are only two ſpecies of this genus, one of which has been already deſcribed as a Hardy Perennial; the other is called, Myrtle-leaved Climbing African *Aſparagus.*

It admits of two principal varieties, called,

The Broad-leaved.

The Narrow-leaved.

Varieties deſcribed.

The root of the Broad-leaved is compoſed of ſeveral oblong, fleſhy knobs, which unite at the top. The ſtalks are weak, climbing, divide into numerous branches, and will riſe, if ſupported, to the height of about five feet. The leaves are pinnated, and ſingle; the folioles are oval, ſpear-ſhaped, pointed, ſeſſile, of a dark but gloſſy-green colour on their upper ſide, but paler underneath, and are placed alternately along the midrib. The flowers come out from the ſides of the branches on ſhort footſtalks; they are of a dull-white colour, appear in October, and are often ſucceeded by ripe heart-ſhaped ſeeds in the ſpring.

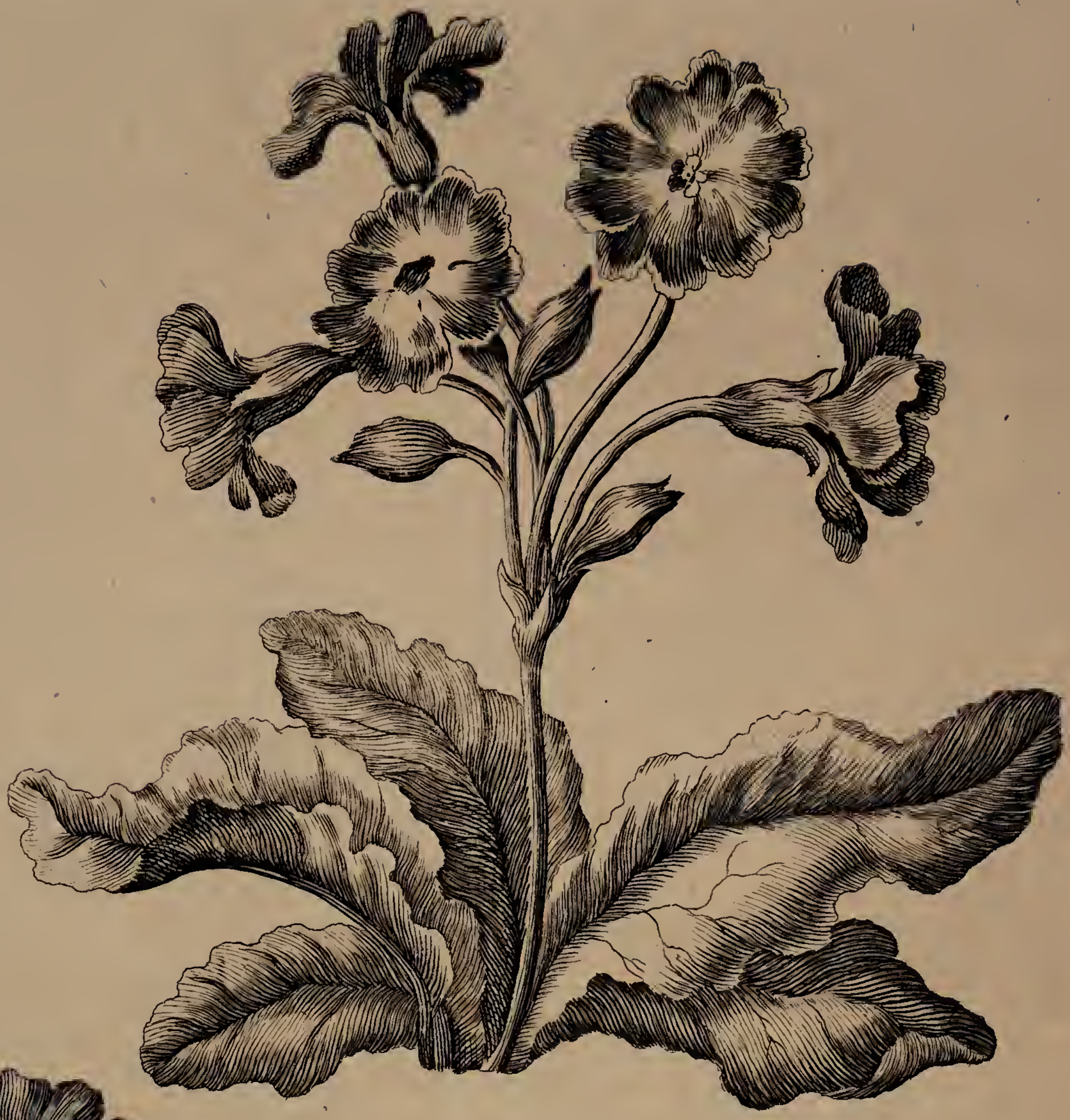
The Narrow-leaved ſort differs from the other, inaſmuch as the ſtalks are ſmaller, and leſs branching. The leaves are long, narrow, and of a greyiſh colour. The flowers are of a greeniſh-white colour, but are produced like the former; they appear about the ſame time, and the ſeeds ripen accordingly.

The ſtalks of both theſe kinds die to the ground every ſummer; but freſh ones ſpring up in the autumn, and continue growing, and exhibiting their flowers, all winter.

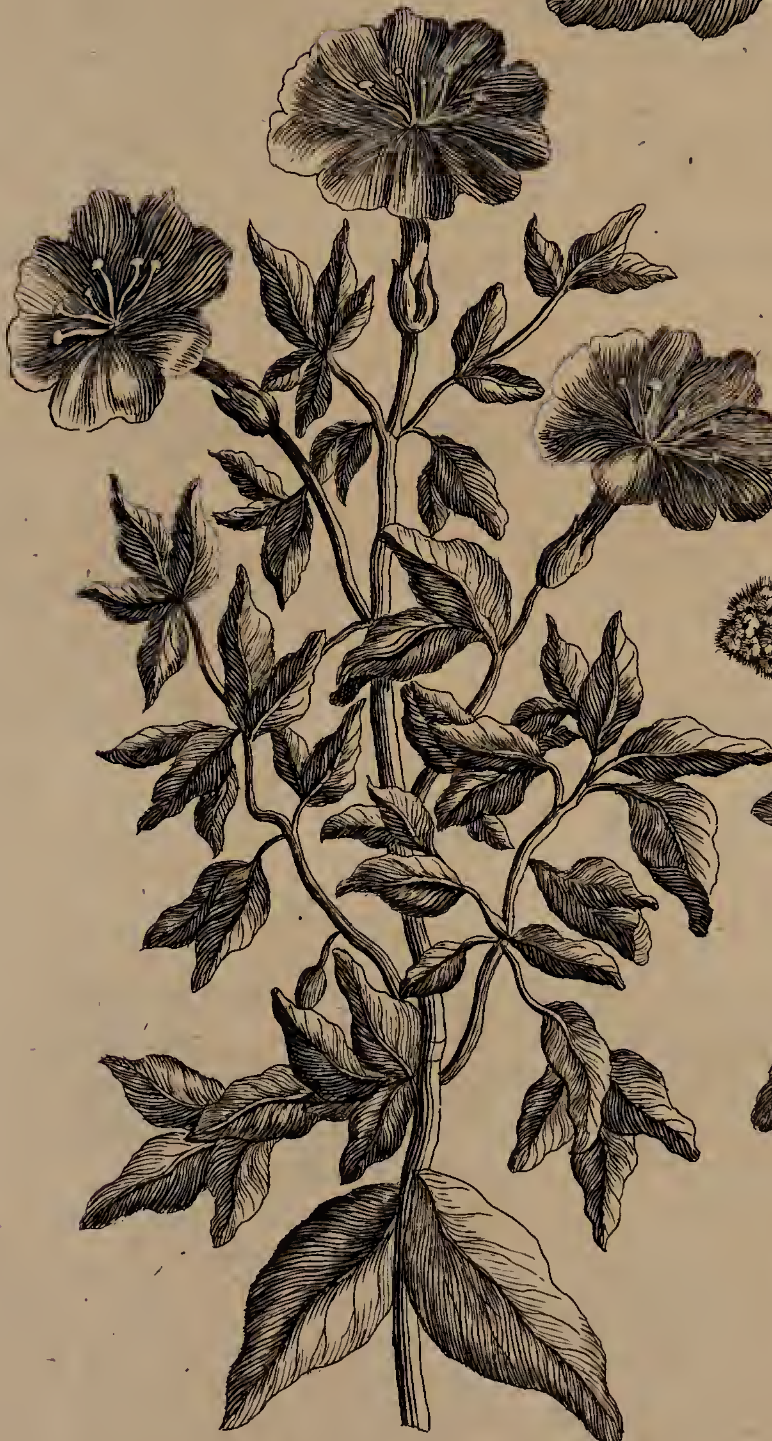
Culture.

They are propagated by parting of the roots in the ſummer, when the ſtalks decay. The off-ſets ſhould be planted in pots filled with good, rich earth; and they ſhould then be removed into a ſhady, well-ſheltered place. Early in September the ſtalks will begin to riſe; they muſt now be placed in a warm ſituation, and ſoon after muſt be removed into a Green-houſe, with the moſt tender plants of that nature. About November, if the off-ſets are ſtrong, the flowers will appear, and will continue in ſucceſſion all winter, but the fruit ſeldom ripens in the Green-houſe; thoſe there-

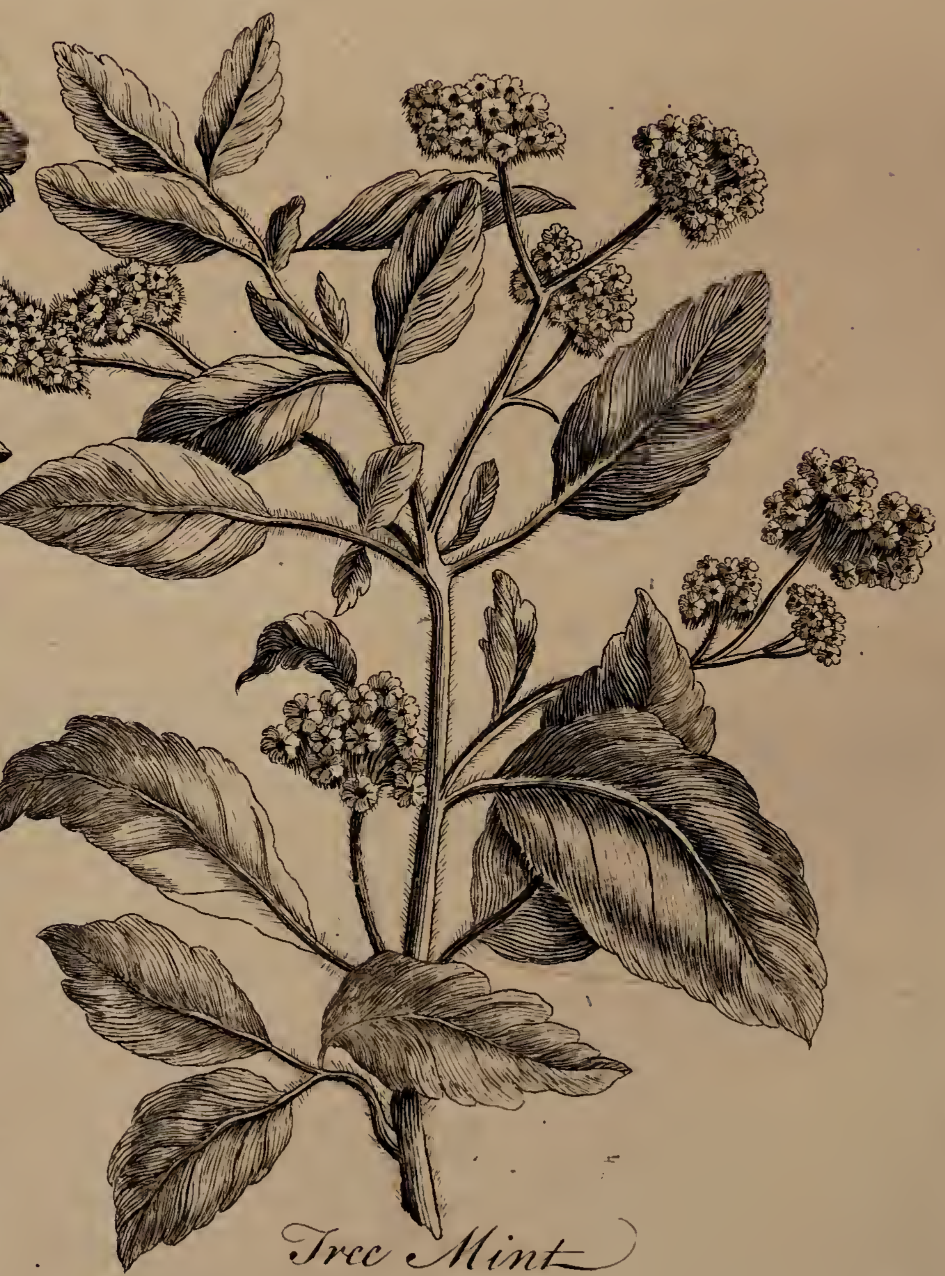
fore



The Polyanthous Primrose.



Marvell of Peru.



Tree Mint

who are deſirous of having ſeeds from thoſe plants, ſhould ſet them in the moſt temperate ſtove; and being thus aſſiſted by a ſmall degree of artificial heat, they will produce plenty of ripe ſeeds in the ſpring, ſoon after which the ſtalks decay.

During the winter, when they are in perfection, they ſhould have frequent, tho' but very ſlight waterings; and when the ſtalks begin to decay, watering ſhould be wholly diſcontinued, as it would then rot their roots; but muſt be reaſſumed in September, when the ſtalk ariſes afreſh.

Titles: Asparagoides. This ſpecies is titled, *Medeola foliis pinnatis: foliolis alternis.* In the *Hort. Cliff.* it is termed, *Aſparagus foliis ovato-lanceolatis ſolitariis.* Herman calls it, *Laurus Alexandrinus ramoſa, foliis e ſummitate caulium prodeuntibus*; and Tilli, *Aſparagus Africanus ſcandens, Myrti folio.* It grows naturally in Æthiopia.

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CHAP. CXIII.

MENTHA, MINT.

THERE is a ſhrubby ſpecies of this genus which makes an agreeable mixture in the Green-houſe, called, the Canary Mint-tree.

The plant deſcribed. The ſtalk is woody, divides into ſeveral branches, and grows to be a yard or more in height. The leaves are oval, crenated, hairy, downy underneath, fragrant, and grow oppoſite to each other on long footſtalks. The flowers are produced in roundiſh heads, growing on long footſtalks: Theſe divide by pairs; ſo that each of them ſupports four heads of flowers. Their colour is white; they appear in June, but are ſeldom ſucceeded by ſeeds in England.

Variety. There is a variety of this ſpecies that will grow to about ſix feet high. The leaves are very hoary, ſtrongly ſcented, and many of them are entire. The flowers are white; but as they ſeldom appear in England, it is the hoary appearance of the plant that makes it chiefly deſired, to cauſe variety with others of different tints.

Culture. Theſe plants are tolerably hardy, and only want protection from froſts in winter. The propagation is eaſily effected by planting the cuttings in any of the ſummer-months. They ſhould be ſet in pots filled with light, freſh earth; and the pots ſhould be plunged up to the rims in a ſhady part of the garden, but not under the drip of trees. Every evening they muſt be watered until they have taken root, and in October muſt be removed into the Green-houſe; where they muſt have as airy a ſtation as poſſible for their winter quarters.

Titles. Canariensis. This ſpecies is titled, *Mentha floribus capitatis axillaribus dichotomis, ſtaminibus corollâ brevioribus, foliis ovatis crenatis, caule arboreſcente.* Plukenet calls it, *Mentha Canarienſis fruteſcens, foliis ſubtus lanugine candidiſſimâ villoſis, floribus glomeratis e ſinu foliorum longioribus pediculis inſidentibus*; Commeline, *Heliotropium Canarienſe arboreſcens, ſcorodoniæ folio*; and Miller, *Heliotropium foliis ovatis crenatis oppoſitis, floribus capitatis alaribus dichotomis, caule arboreſcente.* It grows naturally in the Canary Iſlands.

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CHAP. CXIV.

MESEMBRYANTHEMUM, FIG MARIGOLD.

The plant deſcribed. THE ſpecies of this genus are exceeding numerous, and the variety belonging to them is ſtill greater. All of them are, more or leſs, ſucculent plants: Their flowers are beautiful, and in the different ſpecies appear at all times of the year.

Derivation of the generical title. The generical title *Meſembryanthemum* is derived from the Greek words, μεσημβρια, *meridies*, and ανθος, *flos*; by which is meant, a flower in full blow in the middle of the day. The above appellation was given to this genus, becauſe moſt of the ſpecies are in full perfection at that time; though there are a few whoſe flowers expand in evenings, and are ſhut all day.

As the number of ſpecies of this genus is very great, a ſhort deſcription ſhall follow each of them as they are named; which, together with what is further pointed out in the titles that follow their culture, it is to be hoped, will be ſufficient to lead our ſtudent to a thorough knowledge of the different ſorts of theſe ſcarce and curious plants.

The ſpecies are,

Neapolitan and Night-flowering Fig Marigold deſcribed. 1. Neapolitan Fig Marigold. This ſpecies hath a ſhrubby ſtalk, a fleſhy, taper leaf, and white flowers growing cloſe to the wings of the ſtalks, without any footſtalks.

2. Night-flowering Fig Marigold. The ſtalk is thick, and ſhrubby. The leaves are half-cylindrical, awl-ſhaped, and ſmooth. The flowers

open in evenings, and there are two or three varieties of them: One is at firſt of a fine purple colour, but turns afterwards to a ſilvery-white; another is naturally white on the inſide, but of a fine red colour without; and the petals of a third are of a pale-yellow colour on their out-ſide. They are all finely ſcented, and have footſtalks and quadrifid cups.

Splendid,

3. Splendid Fig Marigold. This plant is of the ſhrubby kind. The leaves are narrow, ſmooth, ſhining, ſemi-taper, and a little three-cornered; they are of a greyiſh colour, and many of them grow together. The flowers are of a whitiſh-yellow colour, having erect, finger-ſhaped cups.

Umbellated,

4. Umbellated Fig Marigold. The ſtalk is erect, thick, and woody. The leaves are awl-ſhaped, and join at the baſe, but ſpread open at the top. The flowers are white, and grow in umbels.

Dwarf Onion-leaved,

5. Dwarf Onion-leaved Fig Marigold. This plant hath no ſtalk. The leaves are ſemi-taper, impunctated, and join at their baſe; they are uſually riſing, but frequently grow horizontally, and ſpread open. The flowers are of a white colour, and each has eight ſtyles.

Tripolium,

6. *Tripolium* Fig Marigold. This is a perennial plant; tho' there is a variety of it that ſeldom laſts longer than two years. The ſtalks are looſe and ſimple. The leaves are plain, ſpear-ſhaped, very ſucculent, impunctated, and grow alternately. The flowers are very large, of a ſilvery-white colour, and have five-cornered cups.

Dwarf Triangular-leaved,

7. Dwarf Triangular-leaved Fig Marigold. This plant hath no ſtalk. The leaves are narrow, three-cornered, and are marked with three indentures at the top. The flowers are ſmall, and of a reddiſh purple colour.

Deltoide Prickly-leaved,

8. Deltoide Prickly-leaved Fig Marigold. The ſtalk of this plant is ſhrubby. The leaves are triangular, and ſhaped like the Greek *Delta*; they are ſhort, thick, of a greyiſh colour, and have prickles on their edges. The flowers grow ſingly on footſtalks; they are of a light purple colour, and are exceeding fragrant.

Barbated,

9. Barbated Fig Marigold. This is a ſhrubby plant. The leaves are nearly of an oval figure, pulpy, tumid, diſtinct, and are bearded at the point. The flowers are of a purple colour, and grow on hairy, hiſpid footſtalks. There are three or four varieties of this ſpecies to be found in our gardens; one has a whitiſh flower; another is a dwarf kind, and has ſmall leaves; whilſt a third low-growing ſort has leaves that are very large.

Hiſpid,

10. Hiſpid Fig Marigold. The ſtalk of this plant is woody, hiſpid, and poſſeſſed of a fine ſilvery down. The leaves are cylindrical, diſtinct, and elegantly ſpangled with ſilvery drops. The flowers are of the following varieties: The violet, the deep purple, the pale purple, the orange-coloured, and the pale red.

Hairy,

11. Hairy Fig Marigold. The ſtalk of this plant is woody, downy, and hairy. The leaves are downy, narrow, ſemi-taper, channelled, hairy, and are joined together at the baſe.

Rough,

12. Rough Fig Marigold. The ſtalk of this plant is woody. The leaves are awl-ſhaped, diſtinct, and very rough and prickly on their under-ſide. There are two or three varieties of this ſpecies, with reſpect to the leaves; but the flowers are of a purple or violet colour, and the ſtamina grow cloſe together.

and Emarginated Fig Marigold deſcribed,

13. Emarginated Fig Marigold. The ſtalk of this plant is woody. The leaves are awl-ſhaped, rough, and grow many together. The flowers are of a purple colour, having expanded ſtamina.

Deſcription of Buckſhorn,

14. Buckſhorn Fig Marigold. This is a ſhrubby plant. The leaves grow from the joints of the ſtalks, are a little triangular, ſharp-pointed, of a greyiſh colour, and are indented on their under-ſide. There are two or three varieties of it; and the flowers are of a red or purple colour.

Spinoſe or Prickly,

15. Spinoſe or Prickly Fig Marigold. This plant hath a ſhrubby, branching, prickly ſtalk. The leaves are taper, three-ſquared, punctated, and diſtinct; ſome ſmall leaves grow from the wings of the larger; and the flowers are of a reddiſh-purple colour.

Tuberoſe-rooted,

16. Tuberoſe-rooted Fig Marigold. This plant is one of the ſhrubby kinds. The root is large, headed, and tuberoſe. The leaves are full of pimples, awl-ſhaped, diſtinct, and recurved at the points. The flowers grow in kind of umbels, and are of a dark-purple colour.

Small-leaved Scarlet-flowered,

17. Small-leaved Scarlet-flowered Fig Marigold. This is a low, procumbent plant. The leaves are taper, awl-ſhaped, ſmooth, and diſtinct. The flowers are of a fine ſcarlet colour.

Pimply-leaved,

18. Pimply-leaved Fig Marigold. This plant hath a ſhrubby, firm ſtalk, of a greyiſh colour. The leaves are very narrow, fleſhy, compreſſed, ſharp-pointed, and are poſſeſſed of a multitude of diſtinct pimples or dots. The flowers are of a purple colour; they grow nearly in form of a corymbus, and have yellow ſtamina.

Creeping Thick-leaved,

19. Creeping Thick-leaved Fig Marigold. This is a perennial plant. The ſtalk is creeping, and nearly cylindrical. The leaves are half-cylindrical, ſmooth, impunctated, three-cornered at their points, and joined together at their baſe. The flowers are of a deep-purple colour.

Falcated,

20. Falcated Fig Marigold. This plant hath a woody ſtalk, that ſends forth a few taper branches. The leaves are falchion-ſhaped, ſhort, ſmooth, and diſtinct. The flowers are ſmall, and of a pale-purple colour.

Paniculated,

21. Paniculated Fig Marigold. The ſtalk of this plant is ſhrubby, paniculated, and diffuſed. The leaves are three-cornered, taper, compreſſed, ſpotted and obtuſe. The flowers are numerous, grow in fine panicles and are of a fleſh, or purple colour.

Loreated,

22. Loreated Fig Marigold. This is a perennial plant. The leaves are awl-ſhaped, ſemi-cylindrical, long, recurved, and are connected at their baſe. The flowers are large, ſtreaked with red on their outſide, and of a pale-yellow within.

Filamentoſe,

23. Filamentoſe Fig Marigold. This is a perennial plant. The ſtalk divides into a few ſexangular branches. The leaves are triangular, punctated, and almoſt connected at their baſe. The flowers are ſmall, and of a worn-out violet or purple colour.

Falchion-leaved Purple,

24. Falchion-leaved Purple Fig Marigold. This is a perennial plant. The leaves are falchion-ſhaped, ſmooth, and are connected at their baſe. The flowers are large, and of a fine purple colour.

Falchion-leaved Golden Marigold,

25. Falchion-leaved Golden Fig Marigold. There are two or three varieties of it, one of which has a kind of ſhrubby ſtalk; the other is a procumbent plant. The leaves are triangular, bright, grow cloſe together, and join at their baſe. The flowers are large, and of a golden-yellow colour.

and Bicolor Fig Marigold.

26. *Bicolor* Fig Marigold. The ſtalks of this plant are ſhrubby. The leaves are awl-ſhaped, ſmooth, punctated, and diſtinct. The flowers

are of two colours; the inſide of the petals is of a fine yellow or ſaffron colour, whilſt the outſide is purple.

Serrated, 27. Serrated Fig Marigold. This plant is of the ſhrubby kind. The ſtalk is of a purple colour. The leaves are awl-ſhaped, three-cornered, punctated, diſtinct, and the keel-ſhaped angle on the outſide is ſerrated. The flowers are of a yellow colour.

Shining, 28. Shining Fig Marigold. This plant hath a very rough, woody ſtalk. The leaves are nearly cylindrical, pimply, ſilvery, and diſtinct. The flowers are of a fine orange colour.

Roſtrated, 29. Roſtrated Fig Marigold. This is a perennial plant, having no ſtalk. The leaves are nearly cylindrical, have tubercles on their outſide, and are connected at their baſe. The flowers are of a yellow colour.

Veruculated, 30. Veruculated Fig Marigold. The ſtalk of this plant is woody. The leaves are three-ſquare, cylindrical, bowed, ſmooth, pellucid, and are of a purple colour at the top. The flowers grow many together; they are ſmall, of a yellow colour, and exceeding fragrant.

Grey Triangular-leaved 31. Grey Triangular-leaved Fig Marigold. This plant hath an upright, woody ſtalk. The leaves are three-cornered, ſharp-pointed, diſtinct, and are marked with grey pellucid punctures. The flowers are large, and of a yellow colour.

Corniculated, 32. Corniculated Fig Marigold. This is a perennial plant. The leaves are three-cornered, ſemi-cylindrical, horned, rough, and punctated. The flowers are of a pale yellow on their inſide, but without they are of an orange colour, and each has ten ſtyles.

Expanded Spear-leaved, 33. Expanded Spear-leaved Fig Marigold. This is a perennial plant. The leaves are ſpear-ſhaped, broad, plain, patent, and diſtinct. The inſide of the flowers is of a yellow colour, but they are white without, and each of them has five ſtyles.

Olive-leaved, 34. Olive-leaved Fig Marigold. This is a perennial plant. The ſtalk is procumbent. The leaves are oblong, oval, plain, acute-pointed, ſpotted on their outſide, and are produced in cluſters. The flower is white, with a ſaffron-coloured middle; it is ſhorter than the calyx, and has four ſtyles.

Ringent, 35. Ringent Fig Marigold. This ſpecies comprehends two remarkable varieties, which have been uſually taken for diſtinct ſpecies, and titled accordingly. They go among gardeners by the names of, 1. Dogs-chap *Ficoides*; 2. Cats-chap *Ficoides*. The Dogs-chap *Ficoides* has a very ſhort ſtalk; but the Cats-chap *Ficoides* has hardly any ſtalk at all. The leaves are thick, three-cornered, ſpotted, and have hairy, or prickly indenures. The flowers are of a yellow colour, and grow on ſhort footſtalks.

Ax-leaved, 36. Ax-leaved Fig Marigold. This is a low, perennial plant. The leaves are ſpotted, and are ſhaped like ſome part of a ſtag's-horn, or a ſort of carpenters axes. The flowers are of a yellow colour, and expand in the night.

Deformed-leaved, 37. Deformed-leaved Fig Marigold. The ſtalks of this plant are ſhrubby. The leaves are deformed, thick, ſmooth, ſpotted with black, and are connected at their baſe. The flowers are of a yellow colour.

White-leaved, 38. White-leaved Fig Marigold. This plant hath no ſtalk, and the root is perennial. The leaves are three-cornered, entire, thick, firm, and of a white, or light grey colour. The flowers are large, and of a golden-yellow colour.

and Tongue-leaved Fig Marigold deſcribed. 39. Tongue-leaved Fig Marigold. This is a perennial plant, without any ſtalk. The leaves are tongue-ſhaped, ſmooth, and the margin is thicker on one ſide. There are two varieties of it; one with a narrow, the other with a broader leaf. The flowers are large, of a yellow colour, and each has ten ſtyles.

Dagger-leaved Fig Marigold deſcribed. 40. Dagger-leaved Fig Marigold. This plant hath a ſhrubby ſtalk. The leaves are awl-ſhaped, three-cornered, very long, and grow alternately. The flower is very beautiful, of a golden-yellow colour, and each has ten ſtyles.

Culture. The culture of theſe ſorts is eaſily effected by planting of the cuttings. Any of the ſummer months is proper for the purpoſe: The chief care muſt be to have a proper mould for their reception, and to have the wounded parts of the cuttings properly healed before they are planted. The beſt ſoil is a light ſandy earth, mixed with ſome lime rubbiſh. With regard to the healing of the cuttings, the time they ſhould lie for that purpoſe, is different, according as they are more or leſs ſucculent. The low-growing ſorts are uſually the moſt ſo; and the cuttings of theſe ſhould be taken off, and the lower ſide-leaves ſtripped off an inch and half or more, as the length of the cuttings will permit; they ſhould be then laid in an airy dry room for eight or ten days at leaſt, before they are planted.

The larger cuttings from the taller ſhrubby ſorts, and thoſe that are leſs ſucculent, need not lie longer than four or five days; for by that time the wounded part will be ſufficiently healed, and the cutting in good condition for planting. Let the cuttings of every kind be planted each in a ſmall pot: The ſize of theſe pots ſhould be according to the growth of the ſpecies intended to be propagated; and they ſhould be always under the general ſize commonly allowed in ſuch caſes, on purpoſe to confine the roots, and keep the plants within bounds.

Having planted your cuttings, no more water muſt be given them than will be barely ſufficient to ſettle the mould to them; and then the pots muſt be plunged up to the rims in ſome part of the Seminary. Hoops muſt be put over them, and mats be in readineſs to cover them in very rainy weather, and alſo from the heat of the ſun, until they have taken root; for before they have taken root, they ſhould have no more ſun than that of the morning until about nine o'clock; but when they are well rooted, they cannot have too much ſun.

If the weather proves dry, they muſt be now and then watered, tho' ſparingly; and when you find your plants are well rooted, they muſt be taken up, and the pots ſet upon a row of tiles or ſlates for the purpoſe where they may have the full benefit of the ſun and air. Here they may remain, obſerving to water them three times a week, or oftener or leſs as the plants are more or leſs ſucculent, until October; at which time they muſt be removed into the Green-houſe, or ſet in a glaſs-caſe provided for the purpoſe, in order for their winter-lodgings.

All winter, they muſt have water but ſparingly; and as the plants encreaſe in ſize, they muſt have larger pots, ſtill obſerving to have them as ſmall as poſſible. The holes at the bottom muſt be well guarded with oyſter-ſhells, or broken pots; and when they are ſet abroad in the ſummer, it muſt be on ſlates, ſtones, or tiles, wholly to ſeparate the bottoms of the pots from any earth; for unleſs this precaution be uſed, if a moiſt ſeaſon ſhould happen, the roots will be pretty ſure of making their way thro' the holes of the pots into the natural mould of the garden, which will cauſe the plants to grow too luxuriant; and when the pots come to be taken up, and the roots ſeparated, they will afterwards droop accordingly.

To keep theſe plants in beautiful order every year, they ſhould be taken out of the pots, and the roots pared and planted afreſh, two or three times, according as you find them grow more or leſs freely. The watering muſt be according to the ſeaſon: If it proves a very hot dry ſummer, they muſt have it three times a week; if a wet one, none at all, or only in ſuch intervals of dry weather as you find the plants will require it.

Theſe plants are tolerably hardy, and require only to be ſheltered from the froſts; and if their ſituation in the winter be ſuch that they can always have the benefit of the free air in mild weather, it will agree with the plants better than a more tender management.

Titles. Geniculiflorum. 1. The Neapolitan Fig Marigold is titled, *Meſembryanthemum foliis ſemiteretibus papuloſis diſtinctis, floribus ſeſſilibus axillaribus, calycibus quadrifidis.* Dillenius calls it, *Meſembryanthemum Capenſe geniculiflorum Neapolitanum creditum.* It grows naturally at the Cape of Good Hope.

Noctiflorum. 2. Night-Flowering Fig Marigold is titled, *Meſembryanthemum foliis ſemicylindricis impunctatis diſtinctis, floribus pedunculatis, calycibus quadrifidis.* Dillenius calls it, *Meſembryanthemum noctiflorum, flore intus candido extus phœniceo odoratiſſimo.* It grows naturally at the Cape of Good Hope.

Splendens. 3. Splendid Fig Marigold is titled, *Meſembryanthemum foliis ſemiteretibus impunctatis recurvis diſtinctis congeſtis, calycibus terminalibus digitiformibus.* Dillenius calls it, *Meſembryanthemum foliis confertis ſplendentibus, flore pallido.* It grows naturally at the Cape of Good Hope.

Umbellatum. 4. Umbellated Fig Marigold is titled, *Meſembryanthemum foliis ſubulatis ſcabrido-punctatis connatis apice patulo, caule erecto, corymbo trichotomo.* Dillenius calls it, *Meſembryanthemum fruteſcens, floribus albis umbellatis*; Herman, *Ficoides Africana erecta teretifolia, floribus albis umbellatis.* It grows naturally at the Cape of Good Hope.

Calamiforme. 5. Dwarf Onion-leaved Fig Marigold is titled, *Meſembryanthemum acaule, foliis ſubteretibus adſcendentibus impunctatis connatis, floribus octogynis.* Dillenius calls it, *Meſembryanthemum calamiforme*; others, *Ficoides humilis, cepæ folio.* It grows naturally at the Cape of Good Hope.

Tripolium. 6. Tripolium Fig Marigold. This is titled, *Meſembryanthemum foliis alaternis lanceolatis planis impunctatis, caulibus laxis ſimplicibus, calycibus pentagonis.* Dillenius calls it, *Meſembryanthemum tripolii folio, flore argenteo.* It grows at the Cape of Good Hope.

Bellidiflorum. 7. Dwarf Triangular-leaved Fig Marigold is titled, *Meſembryanthemum acaule, foliis triquetris linearibus impunctatis apice trifariam dentatis.* Dillenius calls it, *Meſembryanthemum bellidiflorum.* It is a native of the Cape of Good Hope.

Deltoides. 8. Deltoide Prickly-leaved Fig Marigold is titled, *Meſembryanthemum foliis deltoidibus triquetris dentatis impunctatis diſtinctis.* Dillenius calls it, *Meſembryanthemum deltoides & dorſo & lateribus muricatis*; another ſort he calls, *Meſembryanthemum non dorſo ſed lateribus muricatis.* It grows naturally at the Cape of Good Hope.

9. Barbated Fig Marigold is titled, *Meſembryanthemum foliis ſubovatis papuloſis diſtinctis apice barbatis.* Dillenius calls it, *Meſembryanthemum radiatum, ramulis prolixis recumbentibus*; and Petiver, *Ficoides Capenſis, tereti folio: apicibus hirtis.* It grows naturally at the Cape of Good Hope.

Hispidum. 10. Hiſpid Fig Marigold is titled, *Meſembryanthemum foliis cylindricis papuloſis diſtinctis, caule hiſpido.* In the *Hortus Cliffort.* it is termed, *Meſembryanthemum caule hiſpido.* Dillenius calls it, *Meſembryanthemum piloſum micans, flore ſaturatè purpureo.* It grows at the Cape of Good Hope.

Villosum. 11. Hairy Fig Marigold is titled, *Meſembryanthemum foliis pubeſcentibus connatis impunctatis, caule piloſo.* It grows at the Cape of Good Hope.

Scabrum. 12. Rough Fig Marigold is titled, *Meſembryanthemum foliis ſubulatis diſtinctis ſubtus undique muricatis, calycibus muticis.* Dillenius calls it, *Meſembryanthemum purpureum ſcabrum, ſtaminibus collectis.* It grows at the Cape of Good Hope.

Emarginatum. 13. Emarginated Fig Marigold is titled, *Meſembryanthemum foliis ſubulatis congeſtis ſubſcabris, calycibus ſpinoſis, petalis emarginatis.* Dillenius calls it, *Meſembryanthemum purpureum ſcabrum, ſtaminibus expanſis*; Petiver, *Ficoides Capenſis, triangulari folio acuto, flore purpureo.* It grows at the Cape of Good Hope.

Uncinatum. 14. Buckshorn Fig Marigold is titled, *Meſembryanthemum articulis caulinis terminatis in folia connata acuminata ſubtus dentata.* Dillenius calls it, *Meſembryanthemum perfoliatum, foliis minoribus diacanthis*; another ſort he terms, *Meſembryanthemum foliis majoribus triacanthis.* It is a native of the Cape of Good Hope.

Spinosum. 15. Spinoſe Fig Marigold is titled, *Meſembryanthemum foliis tereti triquetris punctatis diſtinctis, ſpinis ramoſis.* Dillenius calls it, *Meſembryanthemum fruteſcens, ramis triacanthis*; Tournefort, *Ficoides Africana, aculeis longiſſimis & foliolis naſcentibus ex foliorum alis.* It grows at the Cape of Good Hope.

Tuberosum. 16. Tuberoſe Fig Marigold is titled, *Meſembryanthemum foliis ſubulatis papuloſis diſtinctis apice patulis, radice capitatâ.* Dillenius calls it, *Meſembryanthemum fruteſcens, radice ingenti tuberoſâ.* It grows naturally at the Cape of Good Hope.

Tenuifolium. 17. Small-leaved Scarlet-flowered Fig Marigold is titled, *Meſembryanthemum foliis ſemiteretibus ſubulatis glabris diſtinctis internodio longioribus.* Dillenius calls it, *Meſembryanthemum tenuifolium procumbens, folio tenuiore viridi, flore coccineo.* It grows at the Cape of Good Hope.

Stipulaceum. 18. Pimply Fig Marigold is titled, *Meſembryanthemum foliis ſubtriquetris compreſſis incurvatis punctatis diſtinctis congeſtis baſi marginatis.* Dillenius calls it, *Meſembryanthemum fruteſcens, flore purpureo rariore.* It grows naturally at the Cape of Good Hope.

Crassifolium. 19. Creeping Thick-leaved Fig Marigold is titled, *Meſembryanthemum foliis ſemicylindricis impunctatis connatis apice triquetris, caule repente ſemicylindrico.* Dillenius calls it, *Meſembryanthemum craſſifolium repens, flore purpureo.* It grows at the Cape of Good Hope.

Falcatum. 20. Falcated Fig Marigold is titled, *Meſembryanthemum foliis ſubacinaciformibus incurvis punctatis diſtinctis, ramis teretibus.* Dillenius calls it, *Meſembryanthemum falcatum minimum, flore purpureo parvo.* It grows at the Cape of Good Hope.

Glomeratum. 21. Paniculated Fig Marigold is titled, *Meſembryanthemum foliis teretiuſculis compreſſis punctatis, caule paniculato multifloro.* Dillenius calls it, *Meſembryanthemum falcatum minus, flore carneo minore.* It grows naturally at the Cape of Good Hope.

Loreum. 22. Loreated Fig Marigold is titled, *Meſembryanthemum foliis ſemicylindricis recurvis congeſtis baſi interiore gibbis connatis, caule pendulo.* Dillenius calls it, *Meſembryanthemum loreum.* It grows naturally at the Cape of Good Hope.

Filamentosum. 23. Filamentoſe Fig Marigold is titled, *Meſembryanthemum foliis æquilateri-triquetris acutis ſubpunctatis ſubconnatis angulis ſcabris, ramis hexagonis.* Dillenius calls it, *Meſembryanthemum falcatum majus, flore purpureo mediocri.* It grows naturally at the Cape of Good Hope.

Acinaciforme. 24. Falchion-leaved Purple Fig Marigold is titled, *Meſembryanthemum foliis acinaciformibus impunctatis connatis angulo carinali ſcabris, petalis lanceolatis.* Dillenius calls it, *Meſembryanthemum acinaciforme, flore ampliſſimo purpureo.* It grows at the Cape of Good Hope.

Edule 25. Falchion-leaved Golden Fig Marigold is titled, *Meſembryanthemum foliis æquilateri-triquetris acutis ſtrictis impunctatis connatis carinâ ſubſerratis, caule ancipiti.* Dillenius calls it, *Meſembryanthemum falcatum majus, flore amplo luteo*; and Herman, *Ficoides, ſive ficus aizoides Africana major procumbens, triangulari folio, fructu maximo eduli.* It grows naturally at the Cape of Good Hope.

Bicolorum. 26. *Bicolor* Fig Marigold is titled, *Meſembryanthemum foliis ſubulatis lævibus punctatis diſtinctis, caule fruteſcente, corollis bicoloribus.* Dillenius calls it, *Meſembryanthemum tenuifolium fruteſcens flore croceo*; and Herman, *Ficoides, ſive ficus aizoides Africana minor erecta, triangulari folio viridi, flore intus aureo, foris purpureo.* It grows naturally at the Cape of Good Hope.

Serratum 27. Serrated Fig Marigold is titled, *Meſembryanthemum foliis ſubulatis triquetris punctatis diſtinctis angulo carinali retrorſum ſerratis.* Dillenius calls it, *Meſembryanthemum ſerratum flore acetabuliformi luteo.* It grows at the Cape of Good Hope.

Micans. 28. Shining Fig Marigold is titled, *Meſembryanthemum foliis ſubcylindricis papuloſis diſtinctis, caule ſcabro.* Dillenius calls it, *Meſembryanthemum micans, flore Phæniceo, filamentis atris*; and Petiver, *Ficoides Capenſis, tereti folio, flore croceo.* It grows at the Cape of Good Hope.

Rostratum. 29. Roſtrated Fig Marigold is titled, *Meſembryanthemum acaule, foliis ſemicylindricis connatis externè tuberculatis.* Dillenius calls it, *Meſembryanthemum roſtrum ardeæ referens.* It grows at the Cape of Good Hope.

Veruculatum. 30. Veruculated Fig Marigold is titled, *Meſembryanthemum foliis triquetro-cylindricis acutis connatis arcuatis impunctatis diſtinctis.* Dillenius calls it, *Meſembryanthemum foliis veruculiformibus, floribus mellinis umbellatis.* It grows naturally in Africa.

Glaucum. 31. Grey Triangular-leaved Fig Marigold is titled, *Meſembryanthemum foliis triquetris acutis punctatis diſtinctis, calycinis foliolis ovato-cordatis.* Dillenius calls it, *Meſembryanthemum ſcabrum, flore ſulphureo convexo*; Moriſon, *Ficoides Africana fruteſcens, folio triangulari breviore glauco*; and Herman, *Ficoides, ſive ficus aizoides Africana minor erecta, folio triangulari glauco, flore luteo.* It grows naturally at the Cape of Good Hope.

Corniculatum. 32. Corniculated Fig Marigold is titled, *Meſembryanthemum foliis triquetro-ſemicylindricis ſcabrido-punctatis, ſupra baſin lineâ elevatis connatis.* Dillenius mentions two ſorts of it; one he terms, *Meſembryanthemum foliis corniculatis longioribus*; the other, *Meſembryanthemum foliis corniculatis brevioribus*; and Petiver calls it, *Ficoides Capenſis, folio triangulari, flore luteo intus pallido.* It grows naturally in Africa.

Expansum. 33. Expanded Spear-leaved Fig Marigold is titled, *Meſembryanthemum foliis planiuſculis lanceolatis impunctatis patentibus diſtinctis oppoſitis alterniſque remotis.* Dillenius calls it, *Meſembryanthemnm tornoſum, foliis ſempervivi expanſis*; and Petiver, *Ficoides Capenſis, folio lato acuto, flore albo intus luteo.* It grows at the Cape of Good Hope.

Tortuosum. 34. Olive-leaved Fig Marigold is titled, *Meſembryanthemum foliis planiuſculis oblongo-ovatis ſubpapilloſis confertis connatis, calycibus triphyllis bicornibus.* In the *Hortus Cliffort.* it is termed, *Meſembryanthemum foliis planis oppoſitis ovatis acuminatis connatis integerrimis*; Dillenius calls it, *Meſembryanthemum tortuoſum, foliis ſempervivi congeſtis.* It grows naturally at the Cape of Good Hope.

Ringens. 35. Ringent Fig Marigold is titled, *Meſembryanthemum ſubacaule, foliis ciliato-dentatis punctatis.* The ſort called Dogs-chap *Ficoides* Dillenius terms, *Meſembryanthemum rictum caninum referens*; the Cats-chap *Ficoides* he calls, *Meſembryanthemum rictum felinum repreſentans*; and Martin calls it, *Ficoides Afra, folio triangulari enſiformi craſſo brevi ad margines laterales multis majoribus ſpinis aculeato.* It grows at the Cape of Good Hope.

Dolabriforme. 36. Ax-leaved Fig Marigold is titled, *Meſembryanthemum foliis dolabriformibus punctatis.* Dillenius calls it, *Meſembryanthemum folio dolabriformi.* It grows naturally at the Cape of Good Hope.

Difforme. 37. Deformed-leaved Fig Marigold is titled, *Meſembryanthemum foliis difformibus punctatis connatis.* Dillenius calls it, *Meſembryanthemum foliis difformibus flore luteo*; and Plukenet, *Ficoides Meſembryanthemum craſſiſſimo & valdè ſucculento folio nigris punctis notato.* It grows naturally at the Cape of Good Hope.

Albidum. 38. White-leaved Fig Marigold is titled, *Meſembryanthemum acaule, foliis triquetris integerrimis.* Dillenius calls it, *Meſembryanthemum foliis robuſtis albicantibus.* It grows naturally in Æthiopia.

Linguiforme. 39. Tongue-leaved Fig Marigold is titled, *Meſembryanthemum acaule, foliis linguiformibus altero margine craſſioribus impunctatis.* Dillenius mentions four diſtinct ſorts of this ſpecies: One he calls, *Meſembryanthemum folio ſcalprato*; another, *folio linguiformi latiore*; a third, *folio linguiformi anguſtiore*; and a fourth, *folio linguiformi longiore.* It grows naturally at the Cape of Good Hope.

Pugioniforme. 40. Dagger-leaved Fig Marigold is titled, *Meſembryanthemum foliis alternis ſubulatis triquetris longiſſimis impunctatis.* Dillenius calls it, *Meſembryanthemum folio pugioniformi, flore aureo ſtramineo.* It grows naturally at the Cape of Good Hope.

CHAP. CXV.

MOREA.

THERE are only two ſpecies of this genus, called,

Species.

1. Canaliculated-leaved *Morea.*
2. Ruſh-leaved *Morea.*

Canaliculated-leaved Morea,

1. Canaliculated-leaved *Morea.* The ſtalks of this ſpecies are round, tender, and about a foot high. The leaves are narrow, flaggy, canaliculated, and embrace the ſtalk with their baſe. The flowers come out of ſheaths from the tops of the ſtalks; they are of a bluiſh colour, having a ſpot at the bottom of each petal; they appear in May and June, and the ſeeds ripen in July.

and Ruſh-leaved Morea deſcribed.

2. Ruſh-leaved *Morea.* The ſtalks of this ſpecies grow to about a foot high. The leaves are awl-ſhaped, and embrace the ſtalks with their baſe. The flowers come out ſingly from the tops of the ſtalk; they are of a blue or purpliſh colour, appear in May and June, and the feeds ripen in July.

Culture.

This plant is propagated by offsets from the roots, which ſhould be taken off in the ſummer, when the ſtalks decay. They ſhould be planted in pots filled with light earth, and ſhould be ſet in ſome warm well-ſheltered place until the beginning of winter, when they ſhould be placed under a hotbed frame or ſome ſhelter to protect them from the froſt; and as ſoon as all danger of that is over, they ſhould be ſet abroad again in the open air.

They are propagated alſo by ſeeds. Theſe ſhould be ſown, ſoon after they are ripe, in pots filled with light earth; the pots muſt be ſet in a ſhady place during the remainder of the ſummer, and in the winter muſt be removed under cover. In the ſpring the plants will come up, when they muſt be frequently watered; and as the days advance in length, muſt be ſet in a ſhady, but nevertheleſs well-ſheltered place. When the leaves decay, which will be in July, the roots ſhould be taken up and planted in freſh pots filled with the like kind of light earth as before; the pots muſt be then ſet abroad in the ſummer, and houſed in the winter, like the offsets; and this work muſt be repeated every year until they come to flower, which will not be under three or four years. This diſcourages many from attempting to raiſe theſe plants from ſeeds; but when large quantities are wanted for ſale, the raiſing them from ſeeds is the beſt and moſt expeditious method that can be purſued.

Titles;

1. The firſt ſpecies is titled, *Morea foliis canaliculatis.* It grows naturally in Africa. Vegeta.

2. The ſecond ſpecies is titled, *Morea foliis ſubulatis.* It grows naturally in Africa. Juncea.

Claſs and order in the Linnæan Syſtem; The characters.

Morea is of the claſs and order *Tetrandria Monogynia*; and the characters are,

1. Calyx is a ſpatha compoſed of two valves.

2. Corolla is compoſed of ſix ſpreading petals, and three others, which are erect and bifid.

3. Stamina are three very ſhort filaments, with oblong antheræ.

4. Pistillum conſiſts of a germen ſituated below the flower, a ſimple ſtyle, and three bifid ſtigmas.

5. Pericarpium is a trigonal, triſulcated capſule, containing three cells.

6. Semina. The ſeeds are many, and roundiſh.

CHAP. CXVI.

MYRICA, GALE,

SWEET WILLOW, or DUTCH MYRTLE.

THE Green-houſe ſpecies of this genus are,

Species.

1. The Oak-leaved *Gale*, or Smaller African Bay.
2. Æthiopian *Gale.*
3. Cape *Gale.*

Oak-leaved Gale

1. Oak-leaved *Gale*, or Smaller African Bay. This plant riſes with a ſhrubby branching ſtalk to a yard, or four feet high. The leaves are oblong, oppoſitely ſinuated, obtuſe, ſit cloſe to the branches without any footſtalks, and remain on the plants all the year. The flowers come out from the ſides of the branches in oval katkins; they are of a whitiſh-green colour, and appear in July. The females are ſucceeded by ſmall round berries, which never ripen in England. There is a variety of this plant with very ſmooth ſhoots, gloſſy leaves, and ſeeds; and another with hairy leaves, ſeeds, &c.

and Æthiopian Gale deſcribed.

2. Æthiopian *Gale.* The ſtalk of this plant is ſlender, woody, about five or ſix feet high, and ſends forth ſeveral long, ſlender, weak

branches from the ſides. The leaves are heart-ſhaped, of a thickiſh ſubſtance, ſerrated, ſit cloſe without any footſtalks, and continue all the year. The flowers come out in roundiſh bunches from the ſides of the branches; they appear in July; and the females are ſucceeded by ſeeds, which rarely ripen in England. There is a variety of this ſpecies with waved, and another with entire leaves.

Cape Gale deſcribed. 3. Cape *Gale*. The ſtalk of this plant is ſhrubby, branching, and grows to three or four feet high. The leaves grow by threes on the branches, are of a light-green colour, and their edges are indented. The flowers come out in roundiſh bunches from the wings of the leaves; they are ſmall, of a whitiſh colour, appear in July, but the ſeeds rarely ripen in our gardens.

Culture. All theſe are propagated by layering. The young ſhoots ſhould be for the purpoſe; they ſhould be ſlit at the joints, pegged deep in the earth, and be frequently watered all ſummer, otherwiſe they will be two years before they ſtrike root. When you find this is effected, carefully take them from the ſtools, let each have its ſeparate pot, and water and ſhade them until they have taken root. In winter they muſt be houſed in common with other tender plants, and in ſummer, when they are ſet abroad, muſt have plenty of water; every other year, they muſt be ſhifted into freſh mould; and this is all the trouble they will require.

They are alſo propagated by ſeeds. Theſe muſt be procured from abroad. They are often two years before they come up; ſo that the beſt way will be to ſow them in pots or boxes, and ſet them in a ſhady, cool place in the ſummer, and under an hotbed frame in the winter; then in the ſpring bring them forward by a gentle hotbed. When the plants are fit to remove, ſet each in a ſeparate pot, water and ſhade them until they have taken root, and let their after-management be the ſame as the layers.

Titles. 1. Oak-leaved *Gale*, or Smaller African Bay, is titled, *Myrica foliis oblongis oppoſitè ſinuatis*. Plukenet calls it, *Coriotragematodendros Africana, botryos amplioribus foliis denſis*; and Commeline, *Laurus Africana minor, folio quercûs*. It inhabits Æthiopia. Querci=folia.

2. Æthiopian *Gale* is titled, *Myrica foliis ſubcordatis ſerratis ſeſſilibus*. Walther calls it, *Alaternoides ilicis folio craſſo hirſuto*; Plukenet, *Tithymali facie planta Æthiopica, ilicis aculeato folio*; Petiver, *Gale Capenſis, ilicis cocciferæ folio*; and Burman, *Myrica foliis ſubcordatis integris ſeſſilibus*. It grows common in Æthiopia. Cordifo=lia.

3. Cape *Gale* is titled, *Myrica foliis ternatis dentatis*. It is a native of the Cape of Good Hope. Trifoliata.

CHAP. CXVII.

MYRSINE, AFRICAN BOX.

THERE is only one ſpecies of this genus, called, African Box.

The plant deſcribed. The ſtalk of this plant is woody, branching, and three or four feet high. The leaves are roundiſh, ſerrated, of a thickiſh ſubſtance, and of a pleaſing-green colour. The flowers are produced from the wings of the leaves, along the upper parts of the branches; they are of a dark-purple colour, and are ſucceeded by roundiſh depreſſed berries, containing the ſeeds.

Culture. This plant is propagated by planting the cuttings, in beds of rich, light earth, during any of the ſummer months. The beds muſt be hooped, to be covered with mats at firſt, and the cuttings muſt be duly watered and conſtantly kept covered until they have taken root; then the matting ſhould be gradually raiſed, and they muſt be accuſtomed by little at a time to the full air, which will not be long in effecting. After the mats are taken off, they muſt be conſtantly watered; and if the weather ſhould prove very hot, it will be proper to ſhade them with mats from eleven in the morning until five or ſix o'clock in the afternoon. When they have made ſome progreſs in growth, they muſt be planted ſeparately in pots filled with very rich, light earth; then they ſhould have a good watering, and be ſet in ſome ſhady part of the garden, to remain there until the autumn, in order to be taken into the Green-houſe with other exotics.

This plant is alſo raiſed from ſeeds. Theſe muſt be ſown on a hotbed in the ſpring; and when the plants are fit to remove, they muſt be planted ſeparately in pots filled with rich, light earth: The plants muſt be brought forward by another hotbed; then they muſt be hardened by degrees to bear the open air; and when that is effected, they muſt be ſet abroad, and managed like the cuttings.

Titles. There being no other ſpecies belonging to this genus, it is named ſimply, *Myrſine*. Commeline calls it, *Vitis idæa Æthiopica, myrti Tarentinæ folio, flore atro-purpureo*; Plukenet, *Buxus Africana rotundifolia ſerrata*; and Breynius, *Frutex Æthiopicus baccifera, foliis myrtilli*. It grows naturally in Æthiopia. Africana.

Claſs and order in the Linnæan Syſtem. *Myrſine* is of the claſs and order *Pentandria Monogynia*; and the characters are,

The characters.

1. CALYX is a ſmall, permanent perianthium, divided into five ſuboval parts.

2. COROLLA is one petal, divided into five ſemi-oval, obtuſe, connivent ſegments.

3. STAMINA are five (ſcarcely diſcernible) filaments, inſerted in the middle of the corolla, having awl-ſhaped, erect antheræ, ſhorter than the corolla.

4. PISTILLUM conſiſts of a nearly globular germen, that almoſt fills the corolla; a permanent, cylindrical ſtyle, longer than the corolla; and a large lanigerous ſtigma, hanging out of the flower.

5. PERICARPIUM is a roundiſh, depreſſed berry, containing five cells.

6. SEMINA. The ſeeds are ſingle in the cells.

CHAP.

CHAP. CXVIII.

MYRTUS, The MYRTLE-TREE.

Introductory Obſervations. THE Common Myrtle is numbered among the moſt celebrated plants of antiquity, and at preſent is one of the greateſt ornaments of our Green-houſes. The extreme fragrance of the leaves, as well as beauty of the plant, cauſes it to be univerſally admired; and its exceeding eaſy culture ſtill adds to its higher worth, and makes it attainable by almoſt every one who will receive it. Every ſlip will grow. From theſe it ſoon riſes to a fine flouriſhing ſhrub, becomes the Prince of the Aromaticks, and is finely qualified for parlour company, as well as to take its place with other plants in the houſe more eſpecially appropriated for their uſe.

I ſpeak in the ſingular number, becauſe there is only one real ſpecies of this Myrtle; and the numerous ſorts that are found in our gardens are but varieties of it: Old Botaniſts, however, have given them titles as diſtinct ſpecies. But tho' one title only is neceſſary to comprehend them all, yet the Gardener ſhould ſearch for the ſeveral varieties to enrich his Green-houſe. A Floriſt is never ſatisfied with his ſorts of Carnations, Tulips, Auriculas, &c. and the Gardener ſhould be equally ambitious after his ſtock of Myrtles; for tho' the variation is little in the flowers, yet this ſhrub varies much in the form of its growth, colour of its leaves, &c. the worſt of which varieties is altogether pleaſing; and when the whole ſtock of them are arranged together, the appearance they make is very grand.

Being common plants, they are pretty-well known; and the names the varieties go by, in a great meaſure point out the different properties they poſſeſs.

They are uſually called,

Varieties.
The Common Broad-leaved or Roman Myrtle.
The Broad-leaved Dutch Myrtle.
The Wild Spaniſh Myrtle.
The Portugal Oval-leaved Myrtle.
The Upright Italian Myrtle.
The Box-leaved Myrtle.
The Thyme-leaved Myrtle.
The Roſemary-leaved Myrtle.
The Lavender-leaved Myrtle.
The Sharp-pointed-leaved Myrtle.
The Broad-leaved Nutmeg Myrtle.
The Narrow-leaved Nutmeg Myrtle.
The Orange-leaved Myrtle.
The Dwarf Myrtle.
The Bird's Neſt Myrtle.
The White-berried Myrtle.
The Striped Broad-leaved Myrtle.
The Striped Upright Myrtle.
The Striped Box-leaved Myrtle.
The Striped Roſemary-leaved Myrtle.
The Double-flowered Myrtle.

Theſe are the moſt noted ſorts of the Myrtle, tho' there are often varieties of it; and their culture is this:

Culture. In July, provide yourſelf with a ſufficient quantity of ſlips or cuttings of the different ſorts; the ſtronger theſe are, the better; tho' the ſmalleſt are not to be thrown away; for every bit of the Myrtle, with proper management, will grow.

Strip the leaves off the bottom part of each ſlip or cutting, then give them a gentle twiſt, and plant them in ſmall pots, filled with light rich earth. This being done, remove the pots into the Green-houſe, placing them where no ſun can come at them; they muſt be well watered; and this watering muſt be daily repeated. This leſſon is taught us from the common practice of putting a ſlip of Myrtle in a glaſs of water, where it will ſhoot forth, and if a little mould is added will ſtrike root, tho' the mould be conſtantly ſubmerged in the glaſs; which plainly proves that the failure of the cuttings from the common practice, is owing to their want of proper moiſture on their being firſt planted. Shade will not do, an hotbed-frame will be of no ſervice to them, and keeping the pots cool in old rotten dung will be ineffectual; and tho' that is the common method by which Myrtles are ſometimes raiſed, yet ſuch numbers of them ſo conſtantly miſcarry, that it plainly proves the practice to be very bad.

To enſure ſucceſs, we muſt place the pots in the Green-houſe; and as even there it will be difficult to keep the mould in the pots moiſt enough, every pot ſhould be ſet on its own ſeparate ſtand filled with water; and as often as the water is abſorbed, it ſhould be ſupplied afreſh. This is the only way of furniſhing your Myrtle-ſlips properly with water, which muſt be afforded them in as large quantities as they may want.

In this place, and with this management, they will ſoon ſhew good ſigns of growth. They muſt then be taken out of the Green-houſe, or they will draw weak, turn yellow, &c. and muſt be plunged up to the rims in common mould, in any ſhady part of the garden that is well defended from the winds. Watering muſt be conſtantly afforded them, weeds muſt be picked out as they ariſe, and with this management they may remain until the end of October. At that time, for the firſt winter, they ſhould be placed under the general hotbed frame; or for want of this they may be removed into the Green-houſe, and ſet in the cooleſt part thereof; for they require only to be protected from froſts.

In the ſpring, they ſhould be ſet abroad with the hardy Green-houſe plants. But as at preſent they will be too ſmall to figure in a Collection, the beſt way will be to let them reſume their former ſtation, placing the pots up to the rims in the mould of the garden as before, and at the ſame time fixing a tile or ſlate under each pot, to prevent the root's ſtriking into the common mould. They will then require leſs watering, by the mould in the pots being thus kept cool; and if the plant be well-ſheltered from cold winds, which ought ſtrictly to be attended to, they may remain longer out in the autumn by ſome weeks, than if their ſituation was bleak and defenceleſs.

All the ſecond ſummer they are to be trained up to the moſt picturesque figures, if they diſcover any tendency to grow otherwiſe. The lower ſhoots ſhould be rubbed off, to train them up to ſtandards, if you chooſe it; and if you wiſh to have them low, and feathered to the bottom, the lower branches ſhould be encouraged: Where they are too thin, they ſhould be ſhortened, to cauſe them to multiply in branches; ſuch ſtems as are inclined to be crooked, ſhould be tied faſt to a ſtrait ſtick; and the pruning of the ſhrubs ſhould be done with ſuch art, that a knife ſhould never appear to have been near them. The ſhearing or clipping of theſe trees into balls, pyramids, &c. is monſtrous; it creates a formal, diſagreeable look, which Nature never deſigned them to wear. All that is to be done is, to ſhorten the ſtraggling branches; entirely take away thoſe that grow irregular, and croſs each other; thin them where they grow too cloſe; and ſhorten them where they are too thin, to cauſe them to throw out lateral ſhoots, and fill the heads. By this management your ſhrubs will always appear beautiful; they will aſſume the gay air Nature deſigned them to wear, when bedecked in their beſt garb; and all the cuttings which muſt neceſſarily be taken from the plants, to cauſe them to aſſume this beautiful look, will be uſeful in noſegays, or to adorn the parlour, &c. by placing them in water-glaſſes, in which they will look green and pleaſant for a long time.

As theſe ſhrubs encreaſe in ſize, they muſt from time to time be ſhifted into larger pots. The roots next the pot and the outſide mould muſt be pared off, the middle mould muſt be a little looſened, and they muſt be ſet directly in the center of larger pots, filled with the like kind of light rich earth. Some perform this operation about three weeks before they are removed out of the Green-houſe, that, taking freſh root before they are ſet abroad, and having freſh mould to grow in, they may grow vigorouſly, and aſſume a more healthy appearance all ſummer: Others defer it until Auguſt, that the plants may ſtrike root, and take to their freſh mould before the autumnal colds come on. Either of theſe is a very good ſeaſon, tho' they may be removed with ſafety at any time in the ſummer; obſerving always at every removal to place them in the ſhade, and ſupply them plentifully with water, until they have taken root; and then, and not before, they may take their ſtation as uſual with the other plants.

In October they ſhould be removed under ſome ſhed or ſhelter, to prevent their being injured by the early froſts; and in this place they may remain until the middle or end of November, provided the weather does not ſet in very ſevere. It would be adviſeable, however, to ſet the Orange, the Nutmegs, and ſome of the Striped kinds firſt of all in the Green-houſe, as being moſt tender: And with regard to the Broad-leaved ſorts, if their ſituation be naturally warm, dry, and well-ſheltered, a ſhare of them may be ſet abroad, and planted as ſhrubs in the Evergreen wilderneſs-quarters, where they will live through our common winters, and will grow and flouriſh until a more than ordinary ſharp froſt deſtroys them.

By keeping theſe plants out late in the autumn, they will bear cloſe confinement in the Green-houſe the better, provided a very ſevere and long froſt ſhould oblige the windows to be conſtantly kept ſhut. They will alſo be leſs liable to make freſh ſhoots in the Green-houſe, which they often do on their being firſt brought in; which ſhoots, being weak by cloſe confinement, become mouldy, decay, and threaten the health of the whole plant; on which account, if a perſon is fond of theſe ſhrubs, and has got a good collection, it will be worth while to have a ſhed erected for their firſt reception, that they may be kept out of the houſe as long as it can be done with ſafety.

Titles. Communis.

This Myrtle is titled, *Myrtus floribus ſolitariis involucro diphyllo*. The Varieties of it are found among old Authors by the different titles of, *Myrtus latifolia Romana*; *Myrtus foliis ovatis, pedunculis longioribus*; *Myrtus foliis ovatis, baccis rotundioribus*; *Myrtus minor vulgaris*; *Myrtus foliis ovato-lanceolatis acutis, ramis rectioribus*; *Myrtus communis Italica*; *Myrtus foliis ovato-lanceolatis confertis*; *Myrtus latifolia Bœtica*; *Myrtus foliis lanceolato-ovatis acutis*; *Myrtus ſylveſtris foliis acutiſſimis*; *Myrtus foliis lanceolatis acuminatis*; *Myrtus latifolia Belgica*; *Myrtus foliis lineari-lanceolatis acuminatis*; *Myrtus foliis minimis & mucronatis*; and the like.

It grows naturally in the ſouthern parts of Europe; alſo in Aſia and Africa.

Claſs and order in the Linnæan Syſtem.

Myrtus is of the claſs and order *Icoſandria Monogynia*; and the characters are,

The characters.

1. Calyx is a monophyllous, erect, permanent perianthium, ſituated on the germen, and divided at the top into five acute ſegments.

2. Corolla is five large, oval, undivided petals, inſerted in the calyx.

3. Stamina are numerous capillary filaments the length of the corolla, and inſerted in the calyx, having very ſmall antheræ.

4. Pistillum conſiſts of a germen ſituated below the flower, a ſingle filiforme ſtyle, and an obtuſe ſtigma.

5. Pericarpium is an oval, umbilicated, trilocular berry.

6. Semina. The ſeeds are ſingle, and kidney-ſhaped.

CHAP. CXIX.

NERIUM, OLEANDER, or ROSE-BAY.

IN this place comes a well-known ſhrub, called, the Oleander, or Roſe-Bay.

The plant deſcribed.

This plant admits of many varieties, all of which are of ſingular beauty, and in the foremoſt liſt among Green-houſe plants. The ſtem is woody, branching, and grows to ſix or eight feet high; the branches are juicy, and the bark of different colours in the different varieties; ſome being green, others brown, and ſome ſtill ſeem inclined to purple. The leaves are long, ſpear-ſhaped, ſtiff, pointed, and of a fine green colour on their upper-ſide, and often ſilvery underneath; and they uſually grow three together at a joint. The flowers come out in cluſters from the ends and ſides of the branches; their colours are white, red, ſcarlet, and double bloſſom. They appear in July and Auguſt, but are rarely ſucceeded by ſeeds in England.

Culture.

Theſe are all propagated by cuttings, layers, and ſuckers from the root. A rich part of a well-managed Kitchen-Garden ſhould be appropriated for the cuttings; it ſhould be well dug, and a bed ſhould be laid out of ſufficient ſize to hold the cuttings. In this they ſhould be planted in any of the ſummer months; though the early part of that ſeaſon is the beſt, that they may have time to ſtrike root, and be fit for potting before the time is come for their being removed into the houſe. Having planted them, give them a watering to ſettle the mould well to their ſides, hoop the beds, and cover them up with mats; let this covering be continued night and day, until you find your cuttings have commenced a good growing ſtate; then harden them by degrees to the open air; and when they are ſtrong plants, let them be ſet ſeparately in pots filled with good garden mould. This being done, water them, and ſet them in the ſhade for a few weeks; and after that place them in a warm ſituation, where they may remain until the end of October, or later if the weather is mild, and be then taken into the Green-houſe with the other plants.

They are alſo raiſed by layers. This ſhould be performed on the young ſhoots, by giving them a ſlit at the joint. After they are layered, they muſt be duly watered in dry weather, or the part will only ſwell without emitting fibres; but if care is taken to ſupply them with water as often as they ſhall require it, and the buſineſs be performed in the ſpring, many of the layers will have formed good roots by the end of ſummer; when they may be taken off, planted ſeparately in pots, and managed like the cuttings.

They are alſo raiſed by ſuckers. When any ſuckers ariſe from the root, apply ſome freſh earth to the contiguous parts; and if you make a ſlight cut with the knife through the bark in the very loweſt part, fibres will iſſue from the wounded parts: In either caſe, when they are grown tolerably ſtrong, let them be carefully ſtript off from the mother-plants, be potted ſeparately, and managed as before.

Titles. Oleander.

This ſpecies is titled, *Nerium foliis lineari-lanceolatis ternis.* Caſpar Bauhine calls it, *Nerium floribus rubeſcentibus*; Dodonæus, *Rhododendrum*; and Van Rheede, *Areli.* It grows naturally in India, Syria, Paleſtine, and Crete.

Claſs and order in the Linnæan Syſtem. The characters.

Nerium is of the claſs and order *Pentandria Monogynia*; and the characters are,

1. CALYX is a ſmall, permanent perianthium, divided into five acute parts.

2. COROLLA is one funnel-ſhaped petal; the tube is cylindrical, and ſhorter than the limb; the limb is large, and divided into five broad, obtuſe, oblique ſegments.

The nectarium is in the form of a coronet, terminates the tube, is ſhort, and divided into many capillary ſegments.

3. STAMINA are five very ſhort awl-ſhaped filaments in the tube of the flower, having ſagittated, connivent antheræ, terminated by long threads.

4. PISTILLUM conſiſts of a roundiſh bifid germen, a cylindrical ſtyle the length of the tube, and a truncated ſtigma.

5. PERICARPIUM conſiſts of two long, taper, acuminated, erect follicules, compoſed of one valve, and ſplitting longitudinally for the diſcharge of the ſeeds when ripe.

6. SEMINA. The ſeeds are numerous, oblong, placed *imbricatim*, and crowned with down.

CHAP.

CHAP. CXX.

OLEA, The OLIVE TREE.

THERE are two diſtinct ſpecies of this genus, called,

Species.

1. The European Olive.
2. The Cape Olive.

European Olive deſcribed. 1. European Olive. The ſtems are ſolid, uſually three or four in number from a ſtrong root, upright, ſend out numerous branches every way from the ſides, and grow to about twenty feet high. The leaves are ſpear-ſhaped, ſtiff, of a chearful-green colour on their upper-ſides, hoary underneath, and ſtand oppoſite in pairs. The flowers are produced in cluſters from the wings of the leaves, are ſmall, and of a white colour; they appear the early part of ſummer, and are ſucceeded by that well-known fruit called Olives.

Varieties. There are numerous varieties of this ſpecies, differing in ſome reſpect or other, and which have been conſidered by old Botaniſts as diſtinct ſpecies. The difference of the fruit ſeen in the ſhops teſtifies in what manner they vary that way; and the names they go by here are generally taken from the places from which they are ſent; though there are names in the countries where they grow, whereby they are diſtinguiſhed by the inhabitants of thoſe countries; ſuch as the *Cormeau*, the *Moureau*, the *Ampoulan*, &c. They are propagated for the ſake of the fruit to eat, and for making of oil. Any valuable variety is encreaſed by dividing of the root, or grafting it, as we do Apples, on the common ſtock.

Culture. It is propagated by layers; which is performed on the young branches in the ſpring. They muſt be duly watered all ſummer, and ſometimes they will ſtrike root by the autumn; though it is generally two years before they have good root fit for removal. When you find they have good root, they ſhould be taken off, and planted ſeparately in pots filled with light rich earth: This may be done at any time of the year; but the beſt ſeaſon is Auguſt, that they may have time to ſtrike root before winter. When they are potted, they ſhould be ſet in a ſhady place at firſt, and duly watered; when they have begun growing, they ſhould be ſtationed under a ſouth wall, where they may remain until the beginning of winter, and then be taken into ſhelter with the hardieſt Green-houſe plants.

There are ſome who plant them abroad in ſome warm ſituation againſt a ſouth wall, where they ſucceed very well in mild winters; but a hard froſt generally kills them in theſe parts. Whoever ventures upon this experiment, muſt be careful to cover them cloſe with mats on the approach of froſt, but immediately on the commencement of fine weather to take away the covering, otherwiſe it will cauſe the young ſhoots to become mouldy, and die; and that which was intended for their preſervation, prove their deſtruction.

The different ſorts of Olive-trees are every year ſent over, with Orange-trees, &c. from Italy; and as the ſtems are pretty large, and the prices reaſonable, the purchaſe of them is the moſt expeditious way of obtaining a good ſtock of theſe plants. Having obtained plants from Italy, the roots are firſt of all to be well cleaned, the broken and bruiſed parts taken off, and then to be ſet in water all night. The next day they are to be placed ſeparately in pots, and plunged into a hotbed of tanners-bark, to facilitate their ſhooting. Here they muſt be watered, and kept ſhaded at firſt: When they have commenced a good growing ſtate, they ſhould be hardened by degrees to the open air, afterwards be ſet abroad in ſome warm well-ſheltered place, and in the latter end of the autumn be taken into the Green-houſe with the reſt of the hardieſt plants.

Cape Olive deſcribed. 2. Cape Olive. This is known among Gardeners by the name of Box-leaved Olive. The ſtems are many from a ſtrong root, taper, grow to ſix or ſeven feet high, and are covered with a greyiſh bark. The leaves are oval, of a thickiſh ſubſtance, ſtiff, ſmooth, and gloſſy. The flowers come out in cluſters from the wings of the leaves, and are ſucceeded by fruit of inferior value to the former.

Culture. This is propagated by layers, &c. in the ſame manner as the preceding. All of them may be encreaſed by ſeeds; but as by this method many bad ſorts will ariſe, whenever theſe trees are to be cultivated for the ſake of the fruit, the operation ſhould be by layering, grafting, or parting of the roots.

Titles. 1. The firſt ſpecies is titled, *Olea foliis lanceolatis*. In the *Hort. Cliff.* it is termed, *Olea foliis lanceolatis: ramis teretiuſculis*; alſo, *Olea ſylveſtris, ramis tetragonis.* Dodonæus calls it ſimply, *Olea*; and Caſpar Bauhine, *Olea ſativa*; alſo, *Olea ſylveſtris, folio duro ſubtus incano.* It grows naturally in moſt of the ſouthern parts of Europe. Europæa.

2. The ſecond ſpecies is titled, *Olea foliis ovatis.* Dillenius calls it, *Liguſtrum Capenſe ſempervirens, folio craſſo ſubrotundo.* It grows naturally at the Cape of Good Hope. Capensis.

Claſs and order in the Linnæan Syſtem. *Olea* is of the claſs and order *Diandria Monogynia*; and the characters are,

The characters.

1. CALYX is a ſmall, monophyllous, tubular perianthium, indented in five erect parts at the top.

2. COROLLA is one funnel-ſhaped petal. The tube is cylindrical, and the length of the calyx. The limb is plane, and divided into four ſemioval ſegments.

3. STAMINA are two ſhort awl-ſhaped filaments placed oppoſite, having erect antheræ.

4. PISTILLUM conſiſts of a roundiſh germen, a very ſhort ſimple ſtyle, and a thickiſh, bifid ſtigma.

5. PERICARPIUM is a ſmooth ſuboval drupe, containing one cell.

6. SEMEN. The ſeed is a rough, oval, oblong nut.

CHAP.

C H A P. CXXI.

ONONIS, REST HARROW, or CHAMMOCK.

THERE is an elegant ſpecies of this genus which requires Green-houſe protection in winters, called, Shrubby Spaniſh *Ononis.*

The plant deſcribed.

It is a low plant, growing only to about a foot and half high. The ſtalks are woody, and the branches are numerous, ſlender, and cloſely jointed. The leaves grow by threes; they are narrow, of a fleſhy ſubſtance, indented in three parts at the top, and grow on ſhort footſtalks. The flowers terminate the branches in looſe panicles, their colour is a fine purple, and two flowers generally grow together on one footſtalk; they come out in June, and are ſucceeded by ripe ſeeds in the autumn.

Culture.

It is propagated by ſowing the ſeeds on a ſlight hotbed in the ſpring. When the plants are fit to remove, ſome ſhould be ſet in ſeparate pots; and theſe pots ſhould be directly plunged up to the rims in a ſhady part of the garden; others ſhould be planted out in a warm, well-ſheltered place, to run the hazard of ſtanding the winter; for if they ſucceed, they will be much more beautiful plants than thoſe in the Green-houſe. In order to keep up the ſtock, however, let the pots be removed into the Green-houſe the end of October, or the beginning of November; and the ſpring following let them be plunged up to the rims in common mould, as before. Here they will flower in the ſummer, and the ſeeds will ripen in the autumn.

Plants that have never been removed will be ſtill more beautiful; and as they produce ſeeds in plenty, let a ſhare of them be thinly ſown in a dry, warm, well-ſheltered place. When the plants come up too cloſe, let them be thinned; and at the approach of winter, let the beds be hooped, and covered with mats in froſty weather. This will enſure their ſafety through common winters. In the ſpring, when all danger of bad weather is over, a ſecond thinning ſhould be made, leaving the plants a foot and an half diſtance from each other. In ſummer they muſt be kept conſtantly clean from weeds, and watered in dry weather. In winter they muſt be protected from froſts by doubling the number of mats, as often as ſuch hard weather ſhall make it neceſſary. Thus your plants may be continued abroad for many years, will ſhew themſelves in perfection, and annually produce flowers and ſeeds in abundance.

Titles.

Triden=tata.

This ſpecies is titled, *Anonis fruticoſa, foliis ternatis carnoſis ſublinearibus tridentatis, pedunculis bifloris.* Tournefort calls it, *Anonis Hiſpanica fruteſcens, folio tridentato carnoſo.* It grows naturally in Spain.

C H A P. CXXII.

ORIGANUM, ORIGANY, or WILD MARJORAM.

THE following ſpecies will live abroad through our mild winters, if planted in a dry ſoil, in a well-ſheltered place; nevertheleſs, to enſure their ſafety, they muſt have protection in bad weather: They are called,

Species.

1. Ægyptian Marjoram.
2. Dittany of Crete.
3. Dittany of Mount Sipylus.
4. Cretan Marjoram.
5. Origany, or Marjoram of Smyrna.

Ægyptian Marjoram deſcribed.

1. Ægyptian Marjoram. This is a ſhrubby, branching plant, about a foot and an half high. The leaves are thick, roundiſh, woolly, hollowed like a ladle, and are finely ſcented. The flowers terminate the branches in roundiſh ſpikes; many of them grow cluſtered together on the main ſtalk, but from the ſide-branches the ſpikes are ſmaller, and fewer in number; they are ſmall, and of a pale-red colour; they come out in July and Auguſt, and are never ſucceeded by ſeeds in our gardens.

Dittany of Crete deſcribed.

2. Dittany of Crete. The ſtalks of this plant are ſlender, hairy, and grow to about nine inches long; they are uſually of a purple colour, and ſend forth their ſide-branches by pairs, growing oppoſite to each other. The leaves are round, thick, white, woolly, and ſtrongly ſcented. The flowers grow from the ends of the branches in looſe, drooping ſpikes, and their colour is purple; they come out in June and July, and ſometimes are ſucceeded by good ſeeds in the autumn

Dittany of Mount Sipylus deſcribed.

3. Dittany of Mount Sipylus. The ſtalks of this plant are ſlender, four-cornered, ſmooth, and of a purpliſh colour; they grow to near two feet high, and ſend forth ſlender ſide-branches, which grow oppoſite to each other. The leaves are oval, ſmooth, and of a greyiſh colour. The flowers are produced from the ends of the branches in ſlender, oblong ſpikes, which bend downwards; they are ſmall, and of a purpliſh colour; they appear in June and July, and ſometimes are ſucceeded by ripe ſeeds in our gardens.

Cretan Marjoram deſcribed.

4. Cretan Marjoram. This plant riſes with upright, four-cornered ſtalks, to about a foot and an half high. The leaves are oval, hoary, obtuſe, and ſtrongly ſcented. The flowers grow in long, ſtraight, priſmatic ſpikes, bunched together; they are ſmall, and of a white colour; they come out in July, but are very rarely ſucceeded by good ſeeds in our gardens.

Origany, or Marjoram of Smyrna deſcribed.

5. Origany, or Marjoram of Smyrna. The ſtalks of this plant are hairy, and grow to about a foot and an half high. The leaves are oval, acutely ſerrated, finely ſcented, and hairy. The flowers are produced in ſpikes, which are ſo diſpoſed as to form umbellated bunches; they are of a white colour, and appear about the ſame time with the former.

Culture.

All theſe ſorts are eaſily propagated by planting of the ſlips, or cuttings, in any of the ſummer months. They will ſtrike root if planted in a ſhady border, and afterwards tranſplanted into pots. But the beſt way is to ſet them at firſt in pots filled with light, freſh earth, and then place them in the Green-houſe until they commence a growing ſtate. At the time of planting they muſt be watered, to ſettle the mould to them; and watering muſt be repeated as often as it is found neceſſary, but it muſt not be given them in too large a quantity at a time. When they have taken root, they ſhould be plunged up to the rims in the common garden-mould, where they may remain until November, when they ſhould be removed into the Green-houſe, and placed under ſome ſhelter for the winter ſeaſon. In the ſpring, a ſhare of them ſhould be turned out of the pots, with the mould at the roots, and ſet in a warm, well-ſheltered place, to live abroad, and take their chance through the next winter; whilſt the others may be treated as hardy Green-houſe plants, in order to produce freſh ſlips, in caſe an hard winter ſhould deſtroy the former; remembering always, to let them have as much free air as poſſible, and but little water during the winter ſeaſon.

Titles.

Ægyptiacum.

1. Ægyptian Marjoram is titled, *Origanum foliis carnoſis tomentoſis, ſpicis nudis.* Tournefort calls it, *Marjorana rotundifolia ſcutellata exotica*; Caſpar Bauhine, *Origano cognata Zatarhendi*; and Alpinus, *Zatarhendi.* It is a native of Ægypt.

Dictamnus.

2. Dittany of Crete is titled, *Origanum foliis inferioribus tomentoſis, ſpicis nutantibus.* Caſpar Bauhine calls it, *Dictamnus Creticus*; Cammerarius, *Dictamnum Cretenſe*; and Lobel, *Dictamnum.* It is a native of Crete.

Sipyleum.

3. Dittany of Mount Sipylus is titled, *Origanum foliis omnibus glabris, ſpicis nutantibus.* Herman calls it, *Origanum montis Sipyli*; Morriſon, *Dictamnus Sipyleus, marjoranæ foliis.* It grows naturally on Mount Sipylus.

Creticum.

4. Cretan Marjoram is titled, *Origanum ſpicis aggregatis longis priſmaticis rectis, bracteis membranaceis calyce duplo longioribus.* In the *Mat. Med.* it is termed, *Origanum foliis ovatis acutis glabris: venis ſcabris, ſpicis tetragonis*; in the *Amœn. Acad. Origanum foliis ovatis obtuſis ſcabris integerrimis, ſpicis confertis compactis glabris.* Caſpar Bauhine calls it, *Origanum Creticum*; alſo, *Origanum folio ſubrotundo*; and Cammerarius, *Origanum Monſpelienſe pulchrum.* It grows naturally in the warm parts of Europe, and in Paleſtine.

Smyrnaeum.

5. Origany, or Marjoram of Smyrna is titled, *Origanum foliis ovatis acutis ſerratis, ſpicis congeſtis umbellatim faſtigiatis.* This ſpecies is, *Origanum Smyrnæum Wheeliti.* Tournefort calls it, *Marjorana Cretica, origani foliis, villoſa, ſaturejæ odore, corymbis majoribus albis.* It grows naturally in Crete, and in the environs of Smyrna.

* * *

CHAP. CXXII.

ORNITHOGALUM, STAR of BETHLEHEM.

UNDER ſhelter in winter ſhould be placed, the Cape *Ornithogalum.*

The plant deſcribed.

The root of this plant is tuberous, thick, irregular, and covered with a dark brown bark. The leaves are heart-ſhaped, oval, ribbed, and grow on longiſh footſtalks. The ſtalks are ſlender, naked, and grow to about a foot high. The flowers come out from the tops of the ſtalks in ſmall, looſe ſpikes; they are of a greeniſh-white colour, and uſually appear in October or November.

There is a variety of it with pale-blue flowers.

Culture.

Theſe are propagated by parting the roots, which ſhould be done when the ſtalks decay. Each root ſhould then be ſet in a ſeparate pot filled with light, freſh earth. In winter they will do under any ſhelter; but they like beſt to be ſtationed in the glaſs-caſe with the moſt hardy ſucculent plants, to have much air, and but little water. In ſummer they ſhould be ſet abroad, with other plants. When the leaves ariſe, and the ſtalks ſhoot up for flowering, they ſhould be frequently watered; but when the ſtalks are decayed, watering ſhould be wholly omitted, as it would then probably rot the roots. This is the treatment they from time to time muſt have; and as the roots get large, they ſhould be regularly divided for encreaſe.

Titles.

Capense.

This ſpecies is titled, *Ornithogalum foliis cordato-ovatis.* Commeline calls it, *Ornithogalum Africanum, plantaginis roſeæ folio, radice tuberoſâ*; and Breynius, *Ornithogalo affinis radice tuberoſâ, cyclaminis folio, flore pallide cæruleo.* It grows naturally at the Cape of Good Hope.

CHAP. CXXIV.

OSTEOSPERMUM, HARD-SEEDED CHRYSANTHEMUM.

THE ſpecies of this genus are,

Species.

1. Piſiferous *Oſteoſpermum.*
2. *Ilex*-leaved *Oſteoſpermum.*
3. Moniliferous *Oſteoſpermum.*
4. Polygaloide *Oſteoſpermum.*
5. Prickly *Oſteoſpermum.*

Piſiferous, 1. Piſiferous *Oſteoſpermum.* The ſtem is woody, divides into many ſoft, woolly branches, and the ſhrub grows to about ſix or eight feet high. The leaves are ſpear-ſhaped, mucronated, acutely ſerrated, ſmooth, veined underneath, and grow on ſhort, bordered footſtalks. The flowers are produced in ſmall bunches from the ends of the branches; they are of a yellow colour, appear in May, and continue in ſucceſſion until the autumn, by which time ripe ſeeds from the firſt-blown flowers may be often gathered.

Ilex-leaved, 2. Ilex-leaved *Oſteoſpermum:* The ſtem is woody, divides into many branches, which are furrowed, and the ſhrub grows to eight or ten feet high. The leaves are oblong, ſinuated, angular, rough, ſit cloſe, and embrace the ſtalk with their baſe. The flowers come out from the wings of the leaves, near the upper part of the ſhoots; they are of a yellow colour, appear in June, and continue in ſucceſſion until the autumn.

Moniliferous, 3. Moniliferous *Oſteoſpermum.* The ſtem is woody, ſmooth, of a grey colour, divides into many branches, and the ſhrub grows to be ſeven or eight feet high. The leaves are oval, unequally ſerrated, of a thickiſh ſubſtance, hoary, and grow alternately. The flowers are produced in cluſters from the ends of the branches; they are of a yellow colour, and ſhew themſelves in July and Auguſt.

Polygaloide, 4. Polygaloide *Oſteoſpermum.* This is a branching ſhrub, about four or five feet high. The leaves are oblong, ſpear-ſhaped, ſmooth, decurrent, ſit cloſe, and are diſpoſed almoſt imbricatim along the branches. The flowers are produced ſingly on downy footſtalks from the ends of the branches; they are of a yellow colour, and appear about the ſame time with the former.

and Prickly Oſteoſpermum deſcribed. 5. Prickly *Oſteoſpermum.* This is a low, branching, elegant ſhrub, about three feet high. The ſtem is upright, and covered with a brown bark. The branches are ſlender, a little downy; and at the extremity, and no where elſe, they are armed with branching ſpines. The leaves are oblong, irregularly notched on the edges, clammy to the touch, of a reſinous, aromatic ſmell, come out without order, and ſit cloſe to the branches. The flowers come out ſingly from the ends of the branches; they are of a yellow colour, and appear in July and Auguſt.

Culture. Theſe are all propagated by planting the cuttings in pots, filled with light, ſandy earth, in any of the ſummer months. The pots ſhould be ſet cloſe together in form of a bed, which ſhould be hooped, in order to cover the plants with mats until they have taken root. Water muſt be allowed them; and when the plants begin to ſhoot, the mats muſt by degrees be taken off. When the plants are hardened to the open air, they may be ſet abroad in a warm, well-ſheltered place, where they may remain until the end of autumn, and then be taken into ſhelter with the hardieſt Green-houſe plants. Every time theſe plants are ſhifted, be careful to cover the hole at the bottom of the pot well with an oyſter ſhell, broken pot, or the like; otherwiſe, when the plants are ſet abroad in the ſummer, the roots will find a paſſage, ſtrike into the ground, nay, even penetrate into pavements, and lay ſuch hold, if they ſtand long, that the diſengaging them will endanger the life of the plant.

1. The firſt ſpecies is titled, *Oſteoſpermum foliis lanceolatis mucronatis ſubpetiolatis glabris ſerratis, ramis denticulato-angulatis.* In Miller's Dictionary it is termed, *Oſteoſpermum foliis lanceolatis acutè dentatis, caule fruticoſo.* Burman calls it, *Oſteoſpermum fruticans lanuginoſum, foliis oblongis dentatis.* It grows naturally at the Cape of Good Hope. Titles. Piſife=
=rum.

2. The ſecond ſpecies is titled, *Oſteoſpermum foliis oblongis dentato-angulatis ſcabris ſemi-amplexicaulibus, ramis ſulcatis.* Burman calls it, *Oſteoſpermum foliis ſcabris ſinuato-denticulatis.* It grows naturally at the Cape of Good Hope. Ilicifo=
=lium.

3. The third ſpecies is titled, *Oſteoſpermum foliis ovalibus ſerratis petiolatis ſubdecurrentibus.* Tournefort calls it, *Chryſanthemoides Afrum, populi albæ foliis*; Plukenet, *Chryſanthemum Africanum fruteſcens, telephii fere foliis craſſis, Oſteocarpon*; and Breynius, *Chryſanthemum arboreſcens Æthiopicum, foliis populi albæ.* It grows naturally in Æthiopia. Monili=
=ferum.

4. The fourth ſpecies is titled, *Oſteoſpermum foliis lanceolatis glabris ſubimbricatis integerrimis decurrentibus.* Vaillant calls it, *Monilifera polygalæ foliis*; and Plukenet, *Chryſanthemum fruticoſum, polygoni foliis, Africanum, caulibus ſcabris, flore minore.* It grows naturally in Æthiopia. Polyga=
=loides

5. The fifth ſpecies is titled, *Oſteoſpermum ſpicis ramoſis.* Commeline calls it, *Chryſanthemoides Oſteoſpermum Africanum odoratum ſpinoſum & viſcoſum*; and Volkamer, *Chryſanthemum Africanum fruteſcens ſinuoſum.* It grows naturally in Æthiopia. Spino=
=sum.

Claſs and order in the Linnæan Syſtem. *Oſteoſpermum* is of the claſs and order *Syngeneſia Polygamia Neceſſaria*; and the characters are,

The characters. 1. CALYX. The common calyx is ſimple, hemiſpherical, and divided into many parts.

2. COROLLA. The compound flower is radiated. The hermaphrodite florets are many in the diſk: the females about ten in the radius. The hermaphrodites are tubular, the length of the

calyx, and indented in five parts at the top. The females are tongue-ſhaped, long, narrow, and have three indentures at the extremity.

3. Stamina of the hermaphrodites conſiſt of five very ſhort, capillary filaments, with a cylindrical, tubular anthera.

4. Pistillum of the hermaphrodites conſiſts of a very ſmall germen, a filiforme ſtyle ſcarcely the length of the ſtamina, and an obſolete ſtigma. In the females it conſiſts of a globular germen, a filiforme ſtyle the length of the ſtamina, and an emarginated ſtigma.

5. Pericarpium. There is none.

6. Semina. The hermaphrodites have none. In the females they are ſingle, globular, coloured, and hard.

The receptacle is plane, and naked.

CHAP. CXXV.

OTHONNA.

ALL the ſpecies of this genus, except one already mentioned as an Annual, belong to the Green-houſe, and are called,

Species. 1. Bulboſe *Othonna.*
2. Pectinated *Othonna.*
3. *Abrotanum*-leaved *Othonna.*
4. *Coronopus*-leaved *Othonna.*
5. *Thymelæa*-leaved *Othonna.*
6. Tree *Othonna.*

Bulboſe, 1. Bulboſe *Othonna.* This ſpecies includes a great number of varieties, which differ ſo much in their appearance, and growth, that a deſcription of any one of them will convey very little idea of the others. The ſtalks of ſome are herbaceous, low, and tender; others are ſhrubby, and grow upwards of ſix feet high. The leaves of ſome are broad; others narrow; ſome ſpear-ſhaped, and entire; others ſpear-ſhaped, and indented. The flowers of all, however, are very beautiful, and for the moſt part large; they are uſually ſingle, grow on long, ſlender footſtalks, and the rays are of a golden-yellow colour; they appear in June, and often continue in ſucceſſion until the end of ſummer; and the firſt blown flowers are ſucceeded by ſlender, downy ſeeds, which in favourable ſeaſons ripen well in our gardens.

Pectinated, 2. Pectinated *Othonna.* The ſtalk is ſhrubby, branching, and grows two or three feet high. The leaves are pinnatifid, being cut almoſt to the midrib into a multitude of narrow ſegments, which run almoſt parallel to each other, and reſemble the teeth of a comb; they are of a hoary whiteneſs, the ſegments are often divided at the ends into two or three points, the whole leaf is of an oblong figure, and they come out without order all over the plant. The flowers come out from the ends and ſides of the branches on long, downy footſtalks; the rays are very large, ſpreading, and of a deep-yellow colour, but of a ſtrong, diſagreeable ſcent; they appear great part of the later ſummer and autumn; and the firſt flowers are ſucceeded by purpliſh-coloured downy ſeeds, which, if protected early enough under glaſſes from too much moiſture, will ripen in our gardens.

Abrotanum-leaved, 3. *Abrotanum*-leaved *Othonna.* The ſtalks are woody, jointed, branching, and grow hardly two feet high. The leaves are of a thickiſh ſubſtance, and are beautifully divided into a multitude of narrow ſegments, like thoſe of Southernwood. The flowers come out from the ends of the branches on ſhort footſtalks; they are of a yellow colour, appear with the former, and are ſucceeded by oblong brown-coloured ſeeds, crowned with down.

Coronopus-leaved, 4. *Coronopus*-leaved *Othonna.* The ſtalk is woody, branching, and grows to four or five feet high. The lower leaves are ſpear-ſhaped, narrow, and entire; but the upper ones are indented on their edges; they are of a greyiſh colour, and come out without order. The flowers come out in looſe umbels from the ends of the branches; they are of a yellow colour, and are ſucceeded by oblong, narrow ſeeds, crowned with down.

Thymelæa leaved, 5. *Thymelæa*-leaved *Othonna.* The ſtalks of this plant are tender at firſt, but afterwards become woody, divide into ſeveral branches, and grow to about three or four feet high. The leaves are ſpear-ſhaped, trinervous, entire, thick, ſucculent, of a greyiſh colour, and come out without order, ſitting cloſe, having no footſtalks. The flowers come out in ſmall cluſters from the ends of the branches; they are of a yellow colour, having large, broad rays, and a full diſk; they appear in ſucceſſion almoſt from the middle to the end of ſummer; and are ſucceeded by oblong ſeeds like the former ſort.

and Tree Othonna deſcribed. 6. Tree *Othonna.* The ſtalk of this plant is woody, branching, and grows to ſix or eight feet high. The leaves are oval, entire, ſmooth on their upper ſide, and downy underneath. The flowers come out ſingly from the ends and ſides of the branches; they are of a yellow colour, appear about the ſame time with the others, and are ſucceeded by the like kind of ſeeds.

Culture. All theſe ſorts are eaſily propagated by planting the ſlips or cuttings, in any of the ſummer months. They ſhould be ſet in beds of light, freſh earth; and the beds ſhould be hooped, and the plants covered with mats until they have taken root. The cuttings muſt be duly watered; and when they are in a growing ſtate, they muſt by degrees be hardened to the open air, and the mats muſt then be wholly taken off. Early in the autumn, or ſooner if they are fit to remove, they ſhould be taken up, with a ball of earth to each root, and planted ſeparately in pots. The pots ſhould then be plunged up to the rims in a ſhady, but well-ſheltered part of the garden, where they may ſtand until the end of October, or longer if the weather is mild, and then be removed into the Green-houſe with other hardy plants. In winter they ſhould have plenty of air, and but little water. In ſummer they ſhould be ſet abroad with Geraniums, and the like kind of Green-houſe plants, among which they will have a pretty effect by their leaves, manner of growth, and flowering, which often continues throughout the greateſt part of the ſummer and autumn.

Titles. Bulboſa. 1. Bulboſe *Othonna* is titled, *Othonna foliis oblongis nudis petiolatis, caule herbaceo, pedunculis unifloris longiſſimis.* In the former edition of the *Species Plantarum* it is termed, *Othonna foliis ovatis integerrimis, caule herbaceo*; alſo, *Othonna dentata, foliis ovato-cuneiformibus dentatis.* Breynius calls it, *Jacobææ affinis planta tuberoſa capitis b. ſpei*; and Burman, *Solidago foliis oblongis dentatis glabris, floribus magnis.* It grows naturally in Æthiopia.

Pectinata. 2. Pectinated *Othonna* is titled, *Othonna foliis pinnatifidis: laciniis linearibus parallelis.* Commeline calls it, *Jacobæa Africana fruteſcens, foliis abſinthii umbelliferi incanis*; and Plukenet, *Jacobæa abſinthites, tomentoſis cinerariæ foliis Æthiopica, calyce integro ſummis oris dentato.* It is a native of Æthiopia.

Abrotani folia. 3. *Abrotanum*-leaved *Othonna* is titled, *Othonna foliis multifido pinnatis linearibus geniculis villoſis.* Commeline calls it, *Aſteroplatycarpos Africana fruteſcens, crithmi marini foliis*; and Volkamer, *Jacobæa Africana fruticans, foliis abrotani ſ. crithmi, major & minor.* It grows naturally in Æthiopia.

Coronopi=folia. 4. *Coronopus*-leaved *Othonna* is titled, *Othonna foliis infimis lanceolatis integerrimis, ſuperioribus ſinuato-dentatis.* Commeline calls it, *Jacobæa Africana fruteſcens, coronopi folio.* It inhabits Æthiopia.

Cheiri=folia. 5. *Thymelæa*-leaved *Othonna* is titled, *Othonna foliis lanceolatis trinerviis integerrimis, caule ſuffruticoſo repente.* Ray calls it, *Aſter fruticoſus Africanus luteus, foliis thymelææ.* It grows in Æthiopia.

Arbores=cens. 6. Tree *Othonna* is titled, *Othonna foliis obovatis integerrimis, caule arboreſcente.* Dillenius calls it, *Doria Africana arboreſcens, floribus ſingularibus.* It grows naturally in Æthiopia.

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CHAP CXXVI.

OXALIS, OXYS, WOOD-SORREL.

Species. THE ſpecies of this genus which will do with common ſhelter in winters are,

1. Purple *Oxalis.*
2. Yellow African *Oxys.*
3. Bulbiferous *Oxys.*
4. Large Yellow Umbelliferous *Oxys.*
5. Verſicoloured *Oxys.*
6. Rough-leaved Æthiopian *Oxys.*

Purple Oxalis deſcribed. 1. Purple *Oxalis.* The root is a roundiſh bulb, hung with long fibres, and covered with a browniſh coat. The leaves are trifoliate, and grow on long, ſlender, red or purple-coloured footſtalks; the folioles are large, roundiſh, hairy, and a little indented at the top. The ſtalks are numerous among the leaves, ſlender, weak, and often of a delicate red or purple colour. The flowers come out ſingly from the tops of the ſtalks; they are large, and of an elegant purple colour; they appear ſo early as January, and continue the ſucceſſion of blow through February, and frequently great part of March; and are ſometimes (tho' but rarely) ſucceeded by ripe ſeeds in our gardens. There is a variety of this ſpecies with white, and another with red or crimſon flowers.

Yellow African, 2. Yellow African *Oxys.* The root is bulbous, and hung with long fibres, which ſtrike deep into the ground. The leaves are trifoliate, a little hairy, of a greyiſh colour underneath, and the folioles are divided into two parts. The flowers come out ſingly from the tops of the ſtalks; they are of a yellow colour, and appear in the ſpring.

Bulbiferous, 3. Bulbiferous *Oxys.* The root is a roundiſh bulb. The ſtalks are ſlender, bulbiferous, branching, and grow to about ſix inches high. The leaves are trifoliate, being compoſed of three ſmall, roundiſh, heart-ſhaped folioles, growing on long ſlender footſtalks. The flowers come out ſingly from the ſides of the ſtalks on ſlender footſtalks; they are of a whitiſh purple colour, appear in May, continue the ſucceſſion for two or three months, and are ſometimes ſucceeded by ripe ſeeds in our gardens.

Large Yellow Umbelliferous, 4. Large Yellow Umbelliferous *Oxys.* The root conſiſts of numerous ſmall bulbs or tubers, collected into a head, which riſes a little above the ground, and ſupports the leaves and fructifications. The leaves are trifoliate, grow on long ſlender footſtalks, and the folioles are moſtly divided into two parts. The ſtalks are ſix inches long. The flowers are produced in umbels from the tops of the ſtalks; they are large, and of a deep yellow colour; they appear in March, and are ſometimes ſucceeded by ripe ſeeds in our gardens.

Verſicoloured, 5. Verſicoloured *Oxys.* The root is bulbous, hung with long fibres, and of a browniſh colour. The ſtalk is branching, and ſix or eight inches high. The leaves are narrow, and in ſome parts grow in whorls, in others are placed alternately on the ſtalks. The flowers come out ſingly from the ſides of the ſtalks on ſlender footſtalks; their outſide is of a reddiſh colour, but they are white within, and their appearance is uſually in May and June.

and Rough-leaved Æthiopian Oxys deſcribed. 6. Rough-leaved Æthiopian *Oxys.* The root is thick, fleſhy, and full of a viſcous juice. The ſtalks are ſlender, branching, and eight or nine inches high. The leaves are ſpear-ſhaped, narrow, ſeſſile, rough, and hairy. The flowers are produced ſingly from the ſides of the ſtalks on long footſtalks; they are large, and of a purple colour, appear in June, and are ſucceeded by ripe ſeeds in September.

Culture. Theſe ſorts are all propagated by offsets from the roots, which ſhould be taken off ſoon after they have ripened their ſeeds, and planted in pots filled with light freſh earth. They ſhould be ſet in a ſhady place until the end of October, and then be removed into the Greenhouſe, or placed under a hotbed frame, for their winter lodgings: In winter they muſt have plenty of air, and frequent waterings, to preſerve the true colour of the leaves, (which will be very beautiful at that ſeaſon) as well as enſure true beauty to the flowers, ſome of which will begin to ſhew themſelves ſoon after Chriſtmas.

In the ſummer, when the leaves and ſtalks decay, the top of the old earth ſhould be taken off, and freſh earth added to the pots; and when the plants are ſo ſpread as wholly to fill the pots, the roots muſt be parted, and planted afreſh as before.

They are alſo raiſed from ſeeds. Theſe ſhould be ſown as ſoon as they are ripe in pots of light rich earth, and ſet in the ſhade until the end of autumn. During winter, they muſt be removed under ſhelter in froſts, and in the ſpring muſt be plunged into a ſlight hotbed: This will effectually bring up ſuch ſeeds as have lain dormant, for many of them will have ſhewn their plants in the autumn. During their ſtay in the bed, they muſt have much air, and but little moiſture at a time, tho' the repetition of watering muſt be frequent; and when the plants are fit to remove, they muſt be ſet in pots, and managed as the offſets.

Titles. Purpurea. 1. Purple *Oxys* is titled, *Oxalis ſcapo unifloro, foliis ternatis indiviſis ciliatis.* In the former edition of the *Species Plantarum* it is termed, *Oxalis ſcapo unifloro, foliis ternatis, radice bulboſâ.* Breynius calls it, *Oxalidi affinis planta bulboſa Africana, flore purpureo magno*; Commeline, *Oxys bulboſa Africana rotundifolia, caulibus & floribus purpureis amplis*; and Burman, *Oxys bulboſa trifolia hirſuta, flore albo.* It grows naturally in Æthiopia.

Flava. 2. Yellow African *Oxys* is titled, *Oxalis ſcapo unifloro, foliis ternatis bipartitis.* Ray calls it, *Oxys Africana bulboſa, floribus amplis luteis, foliis minimis hirſutis*; and Burman, *Oxalis bulboſa, anguſtis digitatis foliis, flore ſolitario luteo*; alſo, *Oxalis Africana bulboſa, foliis ſimpliciter decaphyllis, flore flavo*; alſo, *Oxalis bulboſa, ſimplici caule ad ſummum folioſo, flore luteo.* It grows common in Æthiopia.

Incarnata. 3. Bulbiferous *Oxys* is titled, *Oxalis caule ſubramoſo bulbifero, pedunculis unifloris, foliis paſſim verticillatis foliolis obcordatis.* In the former edition of the *Species Plantarum* it is termed, *Oxalis pedunculis unifloris, caule dichotomo.* In the *Hortus Cliffort.* it is termed, *Oxalis caule bulbifero.* Commeline calls it, *Oxys bulboſa Æthiopica minor, folio cordato, flore ex albido purpuraſcente.* It grows in Æthiopia.

4. Large Yellow Umbelliferous *Oxys* is titled, Pes Capræ *Oxalis ſcapo umbellifero, foliis ternatis ſub-bipartitis apice ſubtus calloſis.* Burman calls it, *Oxalis bulboſa pentaphylla & hexaphylla, floribus magnis luteis & copioſis.* It is a native of Æthiopia.

5. Verſicoloured *Oxys* is titled, *Oxalis caule* Versicolor. *ramoſo, pedunculis unifloris, foliis paſſim verticillatis linearibus emarginatis apice ſubtus calloſis.* In the former edition of the *Species Plantarum* it is termed, *Oxalis caule ſimplici, pedunculo unifloro abbreviato, foliis filiformibus ſubramoſis.* Burman calls it, *Oxalis bulboſa trifolia, foliis linearibus obtuſis, flore externè rubro, intus albo*; alſo, *Oxalis bulboſa anguſtifolia, caule folioſo, flore rubro.* Ray names it, *Oxys Africana, foliis tenuiſſimis in ſummitate caulis*; alſo, *Oxys bulboſa Africana anguſtifolia, flore rubro obſoleto amplo*; and Plukenet, *Oxys Africana, foliis tenuiſſimis, flore amplo verſicolore.* It grows naturally in Æthiopia.

6. Rough-leaved Æthiopian *Oxys* is titled, Hirta. *Oxalis caule ramoſo, pedunculis unifloris, foliis ſeſſilibus, foliolis lanceolatis.* Van Royen calls it, *Oxalis caule ramoſo, foliis lineari-lanceolatis ſeſſilibus, floribus lateralibus ſolitariis*; Burman, *Oxalis radice longâ fibroſâ, caulibus ramoſis, foliis ternis anguſtis, florum petiolis longiſſimis*; alſo, *Oxalis bulboſa, foliis anguſtis ternis hirtis, flore purpureo*; Ray, *Oxys Africana bulboſa, flore purpureo, caule folioſo*; and Plukenet, *Oxys Africana hirſuta latioribus foliis, flore magno purpureo*; alſo, *Oxys Africana bulboſa, dorycnii Monſpelienſium parvis foliis, floribus purpureis amplis.* It grows naturally in Æthiopia.

CHAP. CXXVII.

PASSERINA, SPARROW-WORT.

Species. THIS genus conſiſts of the following ſpecies:

1. Narrow-leaved *Paſſerina*, or Sparrow-wort.
2. Hairy Sparrow-wort.
3. Silky Sparrow-wort.
4. Dodecandrous Sparrow-wort.
5. Flat-leaved Sparrow-wort.
6. Capitated Sparrow-wort.
7. Ciliated Sparrow-wort.
8. One-flowered Sparrow-wort.

Narrow-leaved, 1. Narrow-leaved *Paſſerina*, or Sparrow-wort. The ſtalk is woody, ſends out many ſoft, white, downy branches from the ſides, and grows to be five or ſix feet high. The leaves are very narrow, convex, and imbricated four ways. The flowers are produced among the leaves at the upper parts of the ſhoots; they are ſmall, and of a white colour; appear in June and July, but are rarely ſucceeded by feeds in England.

Hairy, 2. Hairy Sparrow-wort. The ſtalk is woody, ſends out many ſoft downy branches from the ſides, and grows to be ſeven or eight feet high. The leaves are ſhort, thick, fleſhy, ſmooth on the outſide, downy underneath, and diſpoſed *imbricatim.* The flowers come out from the upper parts of the branches; they are ſmall, of a white colour, and appear in June and July.

3. Silky Sparrow-wort. The ſtalk is woody, Silky, hairy, ſends out many downy branches from the ſides, and grows to be five or ſix feet high. The leaves are oval, oblong, of a ſattin-white colour, and very elegant. The flowers are produced along the ſides of the upper parts of the branches; they are ſmall, and are remarkable for having bifurcated filaments; they appear about the ſame time with the former, but the ſeeds rarely ripen in England.

4. Dodecandrous Sparrow-wort. The ſtalk is and Dodecandrous Sparrow-wort deſcribed. woody, ſoft, branching, and four or five feet high. The leaves are ſpear-ſhaped, ſmooth, acuminated, and placed oppoſite in four direc-

tions. The flowers are produced from the upper parts of the branches; they are dodecandrous, and ſit cloſe, having no footſtalks; they appear about the ſame time with the former, but are ſeldom ſucceeded by ripe ſeeds in England.

Flat-leaved, 5. Flat-leaved Sparrow-wort. The ſtalk is woody, branching, and four or five feet high. The leaves are oval, plane, ſmooth, and acute. The flowers are produced in plenty from the tops of the ſhoots; they are of a purple colour, and appear in June and July.

Capitated 6. Capitated Sparrow-wort. The ſtalk is woody, branching, and three or four feet high. The leaves are ſpear-ſhaped, narrow, ſmooth, and are placed alternately. The flowers are collected in roundiſh heads or cluſters, growing on footſtalks towards the extremity of the branches; they appear in June and July, but are rarely ſucceeded by ſeeds in England.

Ciliated, 7. Ciliated Sparrow-wort. The ſtalk is woody, five or ſix feet high, and ſends out many branches from the ſides, which are naked almoſt their whole length. The leaves are ſpear-ſhaped, oblong, ciliated, and ſtand erect at the extremity of the ſhoots. The flowers come out from between the leaves at the ends of the branches; they are ſmall, and of a white colour, appear in June, but are not ſucceeded by ſeeds in England.

and One-flowered Sparrow-wort deſcribed. 8. One-flowered Sparrow-wort. The ſtalk is woody, ſends out many ſlender, ſmooth, ſpreading branches from the ſides, and grows to about a foot and half high. The leaves are very narrow, of a dark green colour, and are placed oppoſite to each other. The flowers are produced ſingly from the ends of the branches; they are of a purple colour, and appear about the ſame time with the former.

Culture. All theſe ſorts are propagated by cuttings in any of the ſummer months. They ſhould be planted in pots, filled with light, ſandy, freſh earth; and the pots ſhould be placed in form of a bed, and ſunk into the ground, in any part of the garden, up to the rims, to keep the mould from drying too faſt. The beds muſt be then hooped, and covered with mats; and this covering muſt be continued night and day until they have taken root, when they ſhould be hardened by degrees to the open air; and when that is effected, the mats ſhould be finally taken off. In this ſituation they may remain all ſummer, but muſt be conſtantly watered in dry weather, and in the beginning of October ſhould be ſet under a warm wall, where they may remain until the end of that month, or longer if the weather is mild, and be then taken into ſhelter with the hardieſt Green-houſe plants.

Titles. Filiformis 1. The firſt ſpecies is titled, *Paſſerina foliis linearibus convexis quadrifariam imbricatis, ramis tomentoſis.* In the *Hortus Cliffort.* it is termed, *Paſſerina foliis linearibus.* Plukenet calls it, *Thymelæa Æthiopica fruticoſa, foliis in longum ſtriatis, ſurculis valde tomentoſis*; and Breynius, *Thymelæa Æthiopica, paſſerinæ foliis.* It grows naturally in Æthiopia.

2. The ſecond ſpecies is titled, *Paſſerina foliis carnoſis extus glabris, caulibus tomentoſis.* Caſpar Bauhine calls it, *Thymelæa tomentoſa, foliis ſedi minoris*; John Bauhine, *Seſamoides parvum Dalechampi*; and Cluſius, *Sanamunda* 3. It grows naturally in France, Italy, Portugal, Spain, and in the Eaſt. Hirsutus.

3. The third ſpecies is titled, *Paſſerina foliis ovatis tomentoſis, floralibus quaternis, caule hirſuto, filamentis bifurcatis.* Burman calls it, *Thymelæa ſericea, foliis oblongis, floribus tubuloſis anguſtiſſimis.* It grows naturally in Æthiopia. Sericea.

4. The fourth ſpecies is titled, *Paſſerina foliis lanceolatis glabris acuminatis adpreſſis, floribus dodecandris ſeſſilibus, ſtaminibus quatuor incluſis.* Burman calls it, *Thymelæa foliis oppoſitis cruciatis.* It grows naturally in Æthiopia. Dodecandra.

5. The fifth ſpecies is titled, *Paſſerina foliis ovatis glabris acutis, floribus obtuſis.* Burman calls it, *Thymelæa foliis planis acutis, comâ & floribus purpureis.* It grows naturally in Æthiopia. Lævigata.

6. The ſixth ſpecies is titled, *Paſſerina foliis lanceolato-linearibus glabris, floribus capitatis, receptaculo incraſſato.* Burman calls it, *Thymelæa foliis linearibus alternis, floribus ex uno petiolo copioſis.* It grows naturally at the Cape of Good Hope. Capitata.

7. The ſeventh ſpecies is titled, *Paſſerina foliis lanceolatis ſubciliatis erectis, ramis nudis.* In the *Hortus Cliffort.* it is termed, *Paſſerina foliis lanceolatis.* Caſpar Bauhine calls it, *Thymelæa foliis chamæleæ minoribus hirſutis*; Burman, *Thymelæa foliis oblongis acutis ad oras fimbriatis*; and Cluſius, *Sanamunda* 1. It grows naturally in Æthiopia, Spain, and the Eaſt. Ciliata.

8. The eighth ſpecies is titled, *Paſſerina foliis oppoſitis linearibus, floribus ſolitariis terminalibus, ramis glabris.* Burman calls it, *Thymelæa foliis triquetris cruciatim oppoſitis, flore ſericeo*; alſo, *Thymelæa ramoſa, linearibus foliis anguſtis, flore ſolitario.* It grows naturally in Æthiopia. Uniflora.

Paſſerina is of the claſs and order *Octandria Monogynia*; and the characters are, Claſs and order in the Linnæan Syſtem. The characters.

1. Calyx. There is none.

2. Corolla is one withering petal; the tube is cylindrical, ſlender, and ſwelling below the middle; the limb is divided into four oval, obtuſe, concave, ſpreading ſegments.

3. Stamina are eight ſetaceous filaments the length of the limb, and placed on the tip of the tube, having nearly oval, erect antheræ.

4. Pistillum conſiſts of an oval germen within the tube of the corolla, and a filiform ſtyle (growing on one ſide of the top of the germen, and the length of the tube), crowned by a capitated hiſpid ſtigma.

5. Pericarpium is coriaceous, oval, and contains one cell.

6. Semen. The ſeed is ſingle, oval, and pointed at each end.

CHAP.

CHAP. CXXVIII.

PERIPLOCA, VIRGINIAN SILK.

THERE is one ſpecies of this genus proper for the Green-houſe, called, African *Periploca*.

It admits of ſeveral varieties, which have been titled as diſtinct ſpecies by old Botaniſts. The moſt material ones are uſually called,

Varieties. African Hoary Periwinkle-leaved Climbing Dogs-bane.

African Hoary Money-wort-leaved Climbing Dogs-bane.

Smooth-ſtalked African Climbing Dogs-bane.

Sinuated-leaved African Climbing Dogs-bane.

Varieties deſcribed. African Hoary Periwinkle-leaved Climbing Dogs-bane. The ſtalks of this plant are ſlender, branching, hairy, wind about each other, or whatever is near them, to the height of about a yard. The leaves are oval, hairy, and grow by pairs on very ſhort footſtalks. The flowers are produced from the ſides of the ſtalks in ſmall cluſters; they are of a chocolate colour, and are finely ſcented; they appear in June, July, Auguſt, and September, but are not ſucceeded by ſeeds in England.

African Hoary Money-wort-leaved Climbing Dogs-bane. This plant riſes, if ſupported, by its twining, hairy, ſlender ſtalk to about five feet high. The leaves are nearly heart-ſhaped, of a lucid-green colour on their upper ſide, hoary underneath, and grow by pairs on ſhort footſtalks. The flowers come out in ſmall cluſters from the ſides of the ſtalks; they are of a kind of chocolate colour, and very ſweet; they appear in July and Auguſt, but are not ſucceeded by ſeeds in England.

Smooth-ſtalked African Climbing Dogs-bane. The ſtalks of this plant are ſlender, ſmooth, twining, and grow to about a yard long. The leaves are oval, ſmooth, and grow by pairs on ſhort footſtalks. The flowers come out in cluſters from the ſides of the ſtalks; they are of a purpliſh colour, appear moſt part of the ſummer months, but are not ſucceeded by ſeeds in England.

Sinuated-leaved Climbing African Dogs-bane. The ſtalks are ſlender, have the ſame twining property with the others, but will grow to a greater length. The leaves are plane, ſinuated, and grow on ſhort footſtalks. The flowers come out in ſmall cluſters from the ſides of the ſtalks; they are of a pale-green colour, and in their native countries are ſucceeded by large, ſmooth, green follicules full of ſeeds.

Culture. All theſe varieties are pretty permanent from ſeeds, by which they may be propagated. Theſe muſt be procured from the countries where they ripen, and muſt be ſown in the ſpring, in pots filled with light, freſh earth. They muſt then be plunged into an hotbed; and when the plants are fit to remove, each ſhould be ſet in its own ſeparate pot. They ſhould next be ſet in a ſecond hotbed, watered, ſhaded at firſt, and by the middle of June ſhould be hardened to the open air. After this they may be ſet abroad in a ſhady place, and in the end of autumn they muſt be removed into the Green-houſe with the hardieſt of the plants, and be treated like them.

They are alſo propagated by layers. The young ſhoots, being laid in the ſpring, will have ſtruck good root before the end of ſummer. In the autumn they may be taken off, planted in ſeparate pots, and afterwards be managed like other hardy Green-houſe plants.

Titles. Africana. This ſpecies is titled, *Periploca caule hirſuto*. In the *Hort. Cliff.* it is termed, *Cynanchum caule volubili ramoſo, foliis ſubovatis cum acumine*. Commeline calls it, *Apocynum ſcandens Africanum, vincæ pervincæ foliis ſubincanum*; Plukenet, *Apocynum ſcandens Africanum, convolvuli minoris folio & caule hirſuto*; Moriſon, *Apocynum Indicum minus, nummulariæ foliis*; and Burman, *Cynanchum foliis planis ſinuatis, flore pallidè viridi, fructu craſſo glabro viridi*. It is a native of Africa.

CHAP. CXXIX.

PHYLICA, BASTARD *ALATERNUS*.

THE following ſpecies compoſe this genus:

Species.
1. Heath *Phylica*.
2. Plumoſe *Phylica*.
3. Radiated *Phylica*.
4. Cordated *Phylica*.
5. Dioecious *Phylica*.
6. Box-leaved *Phylica*.

Heath 1. Heath *Phylica*. The ſtalk is woody, divides into many ſlender, ſpreading branches, and the ſhrub grows to about a yard high. The leaves are like thoſe of our Heath; are ſhort, narrow, acute, of a dark-green colour, ſit cloſe, and grow in whorls round the branches. The flowers are produced in cluſters from the ends of the branches; they are of a white colour, ſurrounded with numerous green leaves; they appear in the autumn, and often continue in ſucceſſion all winter, but are not ſucceeded by ripe ſeeds in our gardens.

and Plumoſe Phylica deſcribed. 2. Plumoſe *Phylica*. The ſtalk is woody, upright,

right, firm, divides into many branches, and grows to about a yard high. The leaves are narrow, awl-ſhaped, of a ſtrong-green colour on the upper ſide, hoary underneath, and grow alternately on every ſide of the branches. The flowers are produced from the ends of the branches in hairy, downy heads; they are of a white colour, appear in the autumn, and frequently continue in ſucceſſion all winter, but are not ſucceeded by ſeeds in this country.

Radiated,

3. Radiated *Phylica.* The ſtalk is woody, branching, hairy, and grows to about three feet high. The leaves are narrow, triangular, and thinly beſtowed on the branches. The flowers are produced in ſmall cluſters from the branches, and appear about the ſame time with the former.

Cordated,

4. Cordated *Phylica.* The ſtalk is woody, upright, firm, and grows to four or five feet high. The leaves are heart-ſhaped, oval, ſmooth, and ſpreading. The flowers are ſmall, of a whitiſh colour, and appear great part of the winter.

Dioecious,

5. Dioecious *Phylica.* The ſtalk is woody, branching, and grows to four or five feet high. The leaves are heart-ſhaped, ſmooth, firm, and grow on ſhort footſtalks. The flowers are collected in ſmall heads, at the ends of the branches; they are dioecious, and appear moſt part of the winter.

and Box leaved Phylica deſcribed.

6. Box-leaved *Phylica.* The ſtalk is woody, erect, branching, and grows to five or ſix feet high. The leaves are oval, firm, ſmooth on their upper ſide, but downy underneath, and grow on ſhort footſtalks. The flowers come out in ſmall heads from the ends of the branches; they are of a greeniſh colour; they appear in the autumn, and continue to ſhew themſelves great part of the winter.

Culture.

All theſe are propagated by planting the ſlips, or cuttings, in the ſpring, or any of the ſummer months; though the beſt time is the latter end of July, or the early part of Auguſt. At that ſeaſon they muſt be ſet in pots filled with good, light, garden mould; be placed in a ſhady part of the Green-houſe; and if they are duly watered, they will ſoon ſtrike root. When they have commenced a growing ſtate, they muſt be brought by degrees nearer the windows, and muſt then be gradually inured to the open air. When this is effected, they muſt be ſet abroad in ſome warm, well-ſheltered place, where they may remain until the end of October, or longer if the weather is mild, and then be taken into ſhelter with the hardy kinds of Green-houſe plants. As theſe plants require protection only from froſts, they muſt have abundance of free air all winter, eſpecially in mild weather; ſo that their ſtation in the Green-houſe ſhould be ſuch as is beſt adapted to thoſe conveniences.

If the cuttings are planted in the ſpring, which is a good ſeaſon for the purpoſe, they ſhould be plunged into a hotbed; and if they are duly watered, and kept ſhaded, they will ſoon ſtrike root. After this the covering ſhould be taken off, they ſhould be hardened by degrees to the open air, then be ſet abroad in ſome well-ſheltered place to remain all ſummer, and in the end of autumn be taken into the Green-houſe, as the others.

Titles.

1. The firſt ſpecies is titled, *Phylica foliis linearibus verticillatis.* In the *Hort. Cliff.* it is termed, *Phylica foliis ovato-linearibus.* Commeline calls it, *Alaternoides Africana, ericæ foliis, floribus albicantibus & muſcoſis.* It grows naturally in Æthiopia. Ericoides.

2. The ſecond ſpecies is titled, *Phylica foliis lineari-ſubulatis: ſummis hirſutis.* Commeline calls it, *Alaternoides Africana, roſmarini latiore & piloſiore folio*; Plukenet, *Chamælea Africana tricoccos & tetracoccos taxifolia, villoſa cæſarie coronatâ*; and Burman, *Chamælea foliis anguſtis ſubtus incanis, floribus capitatis muſcoſis.* It grows naturally in Æthiopia. Plumosa.

3. The third ſpecies is titled, *Phylica foliis linearibus triquetris ſparſis, caule piloſo, bracteis apice glabris coloratiſque.* Plukenet calls it, *Chryſanthemum ericoides coronatum.* It grows naturally at the Cape of Good Hope. Radiata.

4. The fourth ſpecies is titled, *Phylica foliis cordato-ovatis patentibus, caule prolifero.* Commeline calls it, *Alaternoides Africana chamæmeſpilio folio.* It grows naturally at the Cape of Good Hope. Cordata

5. The fifth ſpecies is titled, *Phylica foliis cordatis, floribus dioicis.* It grows naturally at the Cape of Good Hope. Dioica.

6. The ſixth ſpecies is titled, *Phylica foliis ovatis ſparſis terniſque, ſubtus tomentoſis.* Burman calls it, *Chamælea folio ſubrotundo ſubtus incano, floribus in capitulum collectis*; and Herman, *Chamælea Africana, foliis ſubrotundis.* It grows naturally in Æthiopia. Buxifolia.

Claſs and order in the Linnæan Syſtem. The characters.

Phylica is of the claſs and order *Pentandria Monogynia*; and the characters are,

1. CALYX. The flowers are ſituated in one common receptacle, and the calyx of each is a monophyllous, turbinated, permanent perianthium, hairy at the mouth, and cut into five ſegments.

2. COROLLA conſiſts of five acuminated ſquamulæ, each being ſituated at the baſe of every diviſion of the calyx, and they converge inwards.

3. STAMINA conſiſt of five very ſmall filaments, inſerted under the ſquamulæ, having ſimple antheræ.

4. PISTILLUM is compoſed of a germen ſituated in the bottom of the corolla, a ſimple ſtyle, and an obtuſe ſtigma.

5. PERICARPIUM is a roundiſh, trilobed capſule, formed of three valves, and containing three cells.

6. SEMINA. The ſeeds are ſingle, roundiſh, gibbous on one ſide, and angular on the other.

CHAP. CXXX.

PHYLLIS, BASTARD HARE's EAR.

OF this genus is a well-known ſpecies, called, Baſtard Hare's Ear, or *Simpla Nobla* of the Canaries.

The plant deſcribed. The ſtalk of this plant is ligneous, thick, ſoft, jointed, branching near the top, and grows to about a yard high. The leaves are large, ſpear-ſhaped, pointed at each end, of a ſhining green colour on their upper ſide, but pale and veined underneath, and they ſit cloſe, having no footſtalks. The flowers are produced at the ends of the branches, in looſe panicles; they are of a greeniſh colour, inclining to a dark-brown or purple colour; they appear in June and July, and the ſeeds ripen in the autumn.

Culture. This is propagated by ſowing the ſeeds on a ſlight hotbed, in the ſpring. When the plants are about three inches high, they muſt be ſet ſeparately in pots filled with good garden mould; and if all danger from froſt is over, the pots may be ſet in the open garden, in a ſhady place. They muſt be duly watered; and when they have commenced a good growing ſtate, they may be placed, among other tender ſeedling plants, in any part of the garden that is allotted for them. All ſummer they muſt be duly watered, and at the end of autumn muſt be taken into ſhelter with the laſt and hardieſt kinds of Green-houſe plants, for they require only protection from froſt. The ſummer following they will flower, and perfect their ſeeds. If there are plenty of plants, a ſhare of them may be turned out of the pots, and planted among the Biennials, in the open ground; ſuch plants will be ſtronger, the leaves larger, and more beautiful than thoſe that are confined in pots. It is obſervable, that this ſpecies is of no long duration; which ſhould admoniſh us to gather ſeeds at proper intervals, to keep up the ſucceſſion.

Titles. Nobla. This ſpecies is titled, *Phyllis ſtipulis dentatis*. In the *Hort. Cliff.* it is ſimply named, *Phyllis*. Dillenius calls it, *Valerianella Canarienſis fruteſcens, Simpla Nobla dicta*; and Walther, *Bupleuroides quæ arbor umbellifera*. It grows naturally in the Canaries.

Claſs and order in the Linnæan Syſtem. *Phyllis* is of the claſs and order *Pentandria Digynia*; and the characters are,

The characters.

1. Calyx is a ſmall, two-leaved, obſolete perianthium, ſituated above the germen.
2. Corolla is compoſed of five ſpear-ſhaped, obtuſe, revoluted petals, ſlightly connected at their baſe.
3. Stamina are five flaccid, capillary filaments ſhorter than the corolla, having ſimple, oblong antheræ.
4. Pistillum conſiſts of a germen ſituated below the calyx, and has no ſtyle, but two awl-ſhaped, downy, reflexed ſtigmas.
5. Pericarpium. There is none. The fruit is turbinated, oblong, angular, and obtuſe.
6. Semina. The ſeeds are two, parallel, convex and angular on one ſide, plane on the other, and broadeſt at the top.

* * *

CHAP. CXXXI.

PHYSALIS, ALKEKENGI, or WINTER CHERRY.

Species. IN the Green-houſe muſt be ſituated,

1. Somniferous Winter Cherry.
2. Flexuoſe Winter Cherry.

Somniferous 1. Somniferous Winter Cherry. The ſtalk is woody, branching, grows to three or four feet high, and the young ſhoots are erect, and are covered with a woolly, downy bark. The leaves are oval, ſpear-ſhaped, entire, downy, and grow on ſhort footſtalks. The flowers come out in cluſters from the ſides of the branches, ſitting cloſe; they are ſmall, and of a greeniſh-white colour; they appear in June and July, and are ſucceeded by ſmall red berries, which ripen in the autumn.

and Flexuoſe Winter Cherry deſcribed. 2. Flexuoſe Winter Cherry. The ſtalk is woody, grows to four or five feet high, and ſends forth ſeveral long, flexuoſe branches, covered with a grey or whitiſh bark. The leaves are oval, oblong, have none or very ſhort footſtalks, and ſometimes grow oppoſite, ſometimes by threes, round the branches. The flowers come out in cluſters, though but ſparingly, from the ſides of the branches; they are ſmall, and of a greeniſh-yellow colour; they appear in July and Auguſt, and are ſucceeded by round purpliſh berries, which in warm ſeaſons ripen in the autumn.

Culture. Theſe plants are beſt raiſed by ſowing the ſeeds on a ſlight hotbed in the ſpring. When the plants grow to be about four or five inches high, each ſhould be ſet in a ſeparate pot, plunged into a freſh hotbed, and watered and ſhaded until it has taken root. When they are in a good growing ſtate, they muſt be uſed to the open air by degrees: When they are thoroughly hardened, they ſhould be ſet in ſome warm part of the garden, where they may remain until October, and then be removed into the Green-houſe. As the ſecond ſort is the moſt tender, it muſt be taken early into the Houſe, and have the warmeſt place aſſigned it; the other ſhould be ſtationed with the hardieſt Green-houſe plants; and both of them ſhould have but little water in winter. Every ſummer they ſhould be ſet abroad with plants of the like degree of tenderneſs, reſume their place in the autumn, and be managed accordingly.

Titles. 1. Somniferous Winter Cherry is titled, *Phyſalis caule fruticoſo, ramis rectis, floribus confertis.* In the *Hort. Cliff.* it is termed, *Phyſalis caule fruticoſo tereti, foliis ovatis integerrimis, floribus confertis*. Caſpar Bauhine calls it, *Solanum ſomniferum verticillatum*; and Cluſius, *Solanum ſomniferum.* It grows naturally in Mexico, Crete, and Spain. Somni-fera

2. Flexuoſe Winter Cherry is titled, *Phyſalis caule fruticoſo, ramis flexuoſis, floribus confertis.* Ray calls it, *Baccifera Indica, floribus ad foliorum exortus, fructu ſulcato decapyreno.* It grows naturally in India. Flexuosa.

CHAP. CXXXII.

PISTACIA, The MASTICH TREE.

OF this genus is that well-known plant of our Green-houſes, called, *Lentiſcus*, or Maſtich Tree.

This admits of three varieties, called,

Varieties.
The Common *Lentiſcus*, or Maſtich Tree.
The Narrow-leaved *Lentiſcus.*
The Maſtich Tree of Chio.

Varieties deſcribed. The Common *Lentiſcus* grows to about fifteen feet high. The main ſtem is greyiſh, but the bark on the younger branches is of a reddiſh-brown colour. The leaves are abruptly pinnated, being compoſed of about four pair of ſpear-ſhaped folioles, without any odd one; they are of a bright-green colour; the midribs have borders or wings running the whole length, and they continue all the year. The male flowers are looſe, green-coloured katkins, which come out from the ſides of the branches in May, and ſoon fall off. The female flowers are produced in cluſters from the ſides of the branches, and are ſucceeded by ſmall berries, which are at firſt green, but afterwards of a deep-black colour when ripe.

The Narrow-leaved *Lentiſcus* differs only from the former in that the folioles are narrower, more in number on the midrib, and of a paler-green colour. The flowers and fruit are produced exactly alike; and the berries are nearly of the ſame ſize.

Maſtich Tree of Chio. The bark of this plant is brown. The leaves are larger than the other ſorts, and terminated by an odd foliole. The pinnæ are about two or three pair, beſides the odd one, and often turn brown in the autumn. The flowers and fruit are produced in the ſame manner as the others. This is of a more tender nature than the other ſorts; is permanent from ſeeds; and is the ſort from which the true Maſtich of the ſhops is collected.

Culture. Theſe plants are raiſed from ſeeds, which often lie in the ground two years before they come up. They ſhould be ſown in pots or boxes; and in the ſpring after they are ſown, the pots ſhould be plunged into a ſlight hotbed, to facilitate the growth of the ſeeds. When the plants are fit to remove, each ſhould have a ſeparate pot; they ſhould then be well-watered, and ſet up to the rims in the mould in a ſhady part of the garden. Here the two firſt ſorts may remain until the approach of winter, and then be removed into the Green-houſe with the hardieſt plants of that nature; but the laſt ſort ſhould be taken in earlier, and ranked with thoſe of a more tender nature.

They are alſo eaſily raiſed by layers. This ſhould be performed on the young ſhoots; which if laid in the ground, by the common practice of layering, in the ſpring, will have ſtruck good root by the autumn following, when each layer ſhould be taken up, and ſet in its own ſeparate pot. From time to time they muſt be ſhifted into larger pots, as often as they, by their encreaſe in ſize, ſhall require it; and finally into tubs. The common ſorts ſhould be brought into the Houſe among the lateſt plants in the autumn, and ſhould be ſet abroad among the earlieſt in the ſpring, for they are very hardy. When there are plenty of plants, a ſhare may be ſet in the open ground, if the ſoil be naturally dry and warm, in a well-ſheltered part of the Evergreen Shrubbery; and there will be a great chance of their living, and cauſing ſweet and unexpected variety in thoſe places for many years.

Titles. *Lentiſcus*, or the Maſtich Tree, is titled, *Piſtachia foliis abruptè pinnatis, foliolis lanceolatis.* Caſpar Bauhine calls it, *Lentiſcus vulgaris*; and Cluſius, *Lentiſcus.* It grows naturally in Spain, Portugal, Italy, and Paleſtine. Lentiscus.

CHAP.

CHAP. CXXXIII.

POLYGALA, MILK-WORT.

OF this genus there are the following ſpecies,
1. Myrtle-leaved Milk-wort.
Species. 2. Narrow-leaved Æthiopian Milk-wort.
3. Chineſe Milk-wort.
4. Heath-leaved Æthiopian Milk-wort.
5. Prickly Æthiopian Milk-wort.

Myrtle-leaved, 1. Myrtle-leaved Milk-wort. The ſtalk is woody, ſmooth, branching near the top, and grows to be four or five feet high. The leaves are oblong, obtuſely pointed, ſmooth, of a bright green colour, and ſit cloſe to the branches, having no footſtalks. The flowers are produced from the ends of the branches; they are large, and the wings are finely expanded; they are white on their out-ſides, and of a bright-purple colour within; they ſhow themſelves early in the ſummer, and frequently continue in ſucceſſion until the autumn.

Narrow-leaved Æthiopian, 2. Narrow-leaved Æthiopian Milk-wort. The ſtalks are ligneous, undivided, and grow to two or three feet high. The leaves are ſpear-ſhaped, narrow, and ſit cloſe to the ſtalks. The flowers come out from the ends and ſides of the upper parts of the ſtalks in looſe ſpikes; they are of a purple colour, and ſhow themſelves great part of the ſummer.

Varieties. There is a variety of this plant with branching ſtalks, and flowers growing in kind of umbels. There are alſo the Small White, and the Small Purple-flowered varieties.

Chineſe, 3. Chineſe Milk-wort. The ſtalks of this plant are ligneous, ſlender, grow to about a foot long, and unleſs ſupported lie on the ground. The leaves are oval, entire, obtuſely pointed, and grow on very ſhort footſtalks. The flowers come out from the ſides of the ſtalks in ſhort, looſe ſpikes; they are of a greeniſh colour, and appear chiefly in July and Auguſt.

Heath-leaved Æthiopian, 4. Heath-leaved Æthiopian Milk-wort. The ſtalks are woody, branching, and grow to five or ſix feet high. The leaves are narrow, prickly-pointed, and ſit cloſe to the branches. The flowers come out from the ſides of the young branches almoſt their whole length; they are ſmall, of a purple colour, and ſhow themſelves great part of the ſummer.

and Prickly Æthiopian Milk-wort deſcribed. 5. Prickly Æthiopian Milk-wort. The ſtalk is round, firm, branching, and armed with thorns. The leaves are of an oval figure, and terminate in a ſharp, prickly point. The flowers come out from the ſides of the branches like the preceding ſort; they appear in July, and continue in ſucceſſion until the end of Auguſt.

Theſe plants frequently ripen their ſeeds in England; but when they do not, the ſeeds muſt be procured from abroad, for that is the beſt way of propagating thoſe plants.

Culture. The ſeeds muſt be ſown as ſoon as poſſible in pots filled with light, ſandy, loamy earth. In the ſpring the pots muſt be plunged into a hotbed to bring them up. When they appear, they muſt have air as the weather will permit, to prevent their drawing weak; and when they are about four inches high, each ſhould be ſet in a ſeparate pot filled with the like kind of light earth. They muſt then be plunged into a ſecond hotbed; but this ſhould be a very temperate one, for a ſlight degree of warmth will be ſufficient to cauſe them to ſtrike freſh root. Shade muſt be afforded them at firſt, and watering in ſmall quantities at a time muſt be repeated as often as there ſhall be occaſion. When the plants are in a growing ſtate, which will probably be in June, they ſhould be hardened by degrees to the air. When this is effected, they ſhould be ſet abroad in a warm, well-ſheltered place, for their ſummer ſituation; and about the end of October they ſhould be removed into the Green-houſe for their winter-lodgings; except the third ſort, which ought to be taken into the Houſe the beginning of that month. Every ſummer they ſhould be ſet abroad with the ſecond ſet of plants, and houſed again in the autumn accordingly. The third ſpecies is the moſt tender of all theſe ſorts, and muſt have the treatment of the tendereſt Green-houſe plants.

Titles. 1. Myrtle-leaved Milkwort is titled, *Polygala floribus criſtatis carinâ lunulatâ, caule fruticoſo, foliis oblongis obtuſis.* In the *Hort. Cliff.* it is termed, *Polygala foliis lanceolatis obtuſis, caule fruteſcente.* Commeline calls it, *Polygala arborea myrtifolia, floribus albis: intus purpureis*; Plukenet, *Polygala arborea myrtilli ſubrotundis foliis, fructu magno l ordylii*; and Burman, *Polygala fruteſcens, foliis oblongis glabris, flore purpureo.* It grows naturally in Æthiopia. Myrtifolia.

2. Narrow-leaved Æthiopian Milkwort is titled, *Polygala floribus criſtatis racemoſis, bracteolis triphyllis, foliis lineari-lanceolatis, caule ſuffruticoſo.* In the *Amæn. Acad.* it is termed, *Polygala floribus criſtatis racemoſis, carinâ criſtis longiore, caule ſuffruticoſo, foliis lineari-lanceolatis*; alſo, *Polygala floribus criſtatis racemoſis: carinâ criſtis breviore, caule ſuffruticoſo, foliis lineari-ſubulatis*; alſo, *Polygala floribus criſtatis alternis, caule erecto ſuffruticoſo ramoſo, foliis linearibus obtuſis ſcabris.* In the *Hort. Cliff.* it is termed, *Polygala foliis lineari-ſubulatis.* Plukenet calls it, *Polygala Africana glabra, florum galeâ binis criſtis fimbriatis ornatâ, ex involucro magno dipetalo erumpente*; alſo, *Polygala Æthiopica, anguſtis hirſutis foliis, flore obſoletè purpureo*; Ray, *Polygala fruteſcens anguſtifolia ramoſa, floribus in ſummitate velut umbellatis*; Burman, *Polygala foliis linearibus acutis, flore purpureo minore*; alſo, *Polygala folio lineari-obtuſo, flore albente minimo.* It grows naturally in Æthiopia. Bracteolata.

3. Chineſe Milk-wort is titled, *Polygala floribus imberbibus ſpicatis axillaribus, caulibus ſubfruticoſis, foliis ovalibus.* Brown calls it, *Polygala arborea, foliis lanceolato-ovatis, capſulis compreſſis bilobis ultra medietatem diviſis.* It grows naturally in India. Chinen= =sis.

4. Heath-leaved Æthiopian Milk-wort is titled, *Polygala floribus imberbibus lateralibus, caule arboreſcente, foliis triquetris mucronato-ſpinoſis.* In the *Hort. Cliff.* it is termed, *Heiſteria.* Commeline calls it, *Spartium Africanum fruteſcens ericæ folio*; and Plukenet, *Thymbra Capenſis nepetæ-Theophraſti foliis aculeatis, flore parvo purpureo.* It grows naturally in Æthiopia. Heisteria.

5. Prickly Æthiopian Milk-wort is titled, *Polygala floribus imberbibus lateralibus, caule arboreo ſpinoſo, foliis ovalibus mucronatis.* It grows naturally in Æthiopia. Spinosa.

CHAP.

C H A P. CXXXIV.

PORTULACA, PURSLANE.

IN many Green-houſes is found a ſpecies of this genus, called, the Cape Purſlane.

The plant deſcribed. It hath a ſmall, ſhrubby ſtalk, which ſeldom riſes to more than half a foot in height. The leaves are oval, gibbous, a little pointed, and ſucculent. The flowers are produced from the tops of the ſtalks, five or ſix growing together on one common, ſlender footſtalk; their colour is red; they will be in blow in July; but they ſeldom ripen their ſeeds in our gardens.

Culture. This plant is eaſily propagated by planting the cuttings in any of the ſummer months. The cuttings ſhould lie, after being taken from the plants, two or three days, for the wounded parts to heal; after that, each ſhould be ſet in a ſeparate ſmall pot filled with light, ſandy earth, and the pots ſhould be immediately plunged up to the rims in the common garden mould. At this time a ſmall watering may be given them, which ought not afterwards to be repeated above once a week, if the weather proves dry; if very wet weather happens, they ſhould be ſcreened from it, but they ſhould always feel the benefit of moderate ſhowers. In the heat of the day they muſt be ſhaded for the firſt five or ſix weeks after being planted, by which time they will be well rooted, and the trouble of ſhading them will be unneceſſary. With no other management they may remain until the autumn, when they ſhould be removed into the Green-houſe with other tender ſucculent plants.

Titles. Anacampseros. This ſpecies is titled, *Portulaca foliis ovatis gibbis pedunculo multifloro, caule fruticoſo.* In the *Hortus Upſal.* it is termed, *Anacampſeros foliis ovatis convexis acutiuſculis*; in the *Hort. Cliffort. Anacampſeros foliis acuminatis.* Dillenius calls it, *Telephiaſtrum folio globoſo*; Commeline, *Portulaca Africana ſempervirens, flore rubicundo*; and Burman, *Oxalis affinis planta aphylla mammillaris.* It grows naturally at the Cape of Good Hope.

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C H A P. CXXXV.

POTERIUM, GARDEN BURNET.

THERE is a ſhrubby ſpecies of this genus, called, Prickly or Evergreen Burnet.

The plant deſcribed. This plant grows to about a yard high, and divides into ſeveral ſlender branches, which are armed with ſharp, branching thorns. The leaves are pinnated, each being compoſed of ſix or ſeven pair of lobes, beſides the odd one with which they are terminated. The lobes are ſmall, of a firm ſubſtance, a ſhining green colour, and remain all the year. The flowers terminate the branches in ſmall ſpikes; they are of a greeniſh colour, and ſhew themſelves through the months of June, July, Auguſt, and September; and in the autumn good ſeeds may be collected from the firſt-blown flowers.

Culture. It is propagated by planting the ſlips or cuttings, in any of the ſummer months, in pots, which ſhould be removed into the Green-houſe, and placed where no ſun can come at them; then let them be duly watered, and in a little time they will ſtrike root. As ſoon as this is effected, they ſhould be removed into a ſhady part of the garden, plunging the pots up to the rims in the common mould; here they may remain until October, when they ſhould be removed into the Green-houſe, placing them where they may enjoy as much free air as poſſible.

The cuttings or ſlips alſo may be planted at firſt in a ſhady border; and if duly watered, many of them will ſtrike root, which in the autumn may be taken up with a ball of mould to each root, then planted in pots, and afterwards removed into the Green-houſe as the others.

Titles. Spinosum. This ſpecies is titled, *Poterium ſpinis ramoſis.* Moriſon calls it, *Pimpinella ſpinoſa*; Caſpar Bauhine, *Poterio affinis, foliis pimpinellæ ſpinoſa*; and Cluſius, *Stæbe legitima Dioſcoridis.* It grows naturally in Crete, Lebanon, &c.

C H A P.

CHAP. CXXXVI.

PRASIUM, SHRUBBY HEDGE NETTLE.

Species.

OF this genus there are,

1. The Greater Italian Shrubby Hedge Nettle.
2. The Smaller Shrubby Hedge Nettle.

Greater Italian Shrubby

1. Greater Italian Shrubby Hedge Nettle. This plant riſes with a woody, whitiſh, branching ſtalk to the height of about a yard. The leaves are oblong, oval, ſerrated, and continue green all the winter. The flowers are produced from the wings of the leaves in whorls round the ſtalks; they are moderately large, and of a white colour, having ſometimes a few ſtreaks of yellow; they appear in June and July, and ripen their ſeeds in the autumn.

and Smaller Shrubby Hedge-Nettle deſcribed.

2. Smaller Shrubby Hedge Nettle. This plant grows to near a yard high. The ſtalk is woody, branching, and covered with a white bark. The leaves are oval, doubly crenated, of a ſhining-green colour, and continue all winter. The flowers are produced in whorls from the wings of the leaves; their colour is white, with ſome ſpots of purple; they come out in June and July, and ripen their ſeeds in the autumn.

Culture.

Theſe plants are beſt raiſed from the ſeeds. Sow them on a moderate hotbed in the ſpring, and they will ſoon come up. The bed muſt be hooped, and the plants covered only in evenings. Water them frequently, keep them clean from weeds, and about July they will be fit for tranſplanting. Let each be put into a ſmall pot filled with light, freſh earth; water them well, place the pots up to the rims in the common mould, and there let them remain until the beginning of winter, when they ſhould be removed into the Green-houſe. In the ſpring, ſome of them may be placed among low Evergreens in the wilderneſs, if the ſoil be dry and warm; otherwiſe it will be in vain to attempt ſetting them abroad, for a moderate froſt will kill them. The reſt may be placed with the hardy Green-houſe plants, to be houſed in November.

Theſe plants may alſo be encreaſed by cuttings. Place theſe in pots in April, and plunge them up to the rims in a gentle hot-bed; water and ſhade them until they have taken root, and afterwards plunge them up to the rims in the kitchen garden-mould; where having remained until the beginning of winter, they ſhould be removed into the Green-houſe, like the ſeedling plants.

Titles.

1. The Greater Italian Shrubby Hedge Nettle is titled, *Praſium foliis ovato-oblongis ſerratis.* Zann calls it, *Lamium arboreum perenne Creticum*; Mo- Majus riſon, *Meliſſa fruticoſa Cretica ſempervirens, teucrii facie, flore albo*; and Barrelier, *Teucrium fruticans, amplo & albo flore, Italicum.* It grows naturally in Italy, Sicily, and Spain.

2. Smaller Shrubby Hedge Nettle is, *Praſium* Minus *foliis ovatis, crenâ utrinque duplici.* Cupani calls it, *Lamium fruticans, teucrii folio lucido, calyce & flore magno candido: tantillâ purpureâ variè notato.* It grows naturally in Sicily.

Claſs and order in the Linnæan Syſtem. The characters.

Praſium is of the claſs and order *Didynamia Gymnoſpermia*; and the characters are,

1. CALYX is a monophyllous, campanulated, turbinated, erect, bilabiated perianthium. The upper-lip is the broadeſt, and cut into three acute ſegments. The lower-lip, which is rather the ſmalleſt, is cut into two ſegments.
2. COROLLA is a ringent petal. The upper-lip is erect, oval, concave, and ſlightly indented. The lower-lip is broad, erect, and cut into three ſegments, the middle one being the largeſt.
3. STAMINA are four awl-ſhaped filaments under the upper-lip, with oblong, lateral antheræ.
4. PISTILLUM conſiſts of a quadrifid germen, a filiforme ſtyle the length and ſituation of the ſtamina, and a bifid acute ſtigma.
5. PERICARPIUM conſiſts of four roundiſh, unilocular berries.
6. SEMINA. The ſeeds are ſingle, and roundiſh.

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CHAP. CXXXVII.

PROTEA, The SILVER-TREE.

Species.

THERE are, in fact, only two diſtinct ſpecies at preſent of this genus, though both of them admit of numerous varieties.

1. Silvery *Protea*, or Changing Tree.
2. Coniferous *Protea*.

Silvery Protea, or Changing Tree deſcribed.

1. Silvery *Protea*, or Changing Tree. The ſtem is woody, upright, thick, firm, branching, and eight or ten feet high. The leaves are ſpear-ſhaped, pointed, and placed in various directions on the ſhrub; they are of a ſattin or ſilvery-white ſhining colour, and of ſuch admirable beauty when properly ſtationed in the light, that they alone are ſufficient to conſtitute this a ſhrub of the firſt value and reſpect. The flowers are collected in ſmall conical heads at the upper parts of the branches, but are ſmall, and inconſiderable; they rarely ſhew themſelves here, neither do the ſeeds ever ripen in England.

Coniferous Protea deſcribed.

2. Coniferous *Protea*. This is a branching ſhrub, ten or twelve feet high. The leaves are long, narrow, ſpear-ſhaped, ſharp-pointed, ſmooth, and entire. The flowers are collected in ſcaly

heads, and are ſucceeded by the cones, which are about the ſize of thoſe of the Larch Tree.

Culture. Theſe ſorts are propagated by planting the cuttings, in the ſpring, in pots filled with light, rich earth, and plunging them into a hotbed of tanner's bark; they muſt be watered and kept ſhaded until they have taken root, and afterwards have ſufficient air, to prevent their drawing up too weak. When they have commenced a good growing ſtate, let them be potted ſeparately, plunged into a hotbed, and managed as before; and when they have recovered the check they may have received from this removal, they muſt be hardened by degrees to the open air, and in the autumn be taken into the Green-houſe with other tender plants.

They may alſo be raiſed from ſeeds, which muſt be procured from the countries where they naturally grow. Let them be ſown in pots filled with light, rich earth, and be plunged into a hotbed of tanner's bark. If the ſeeds are freſh and good, the plants will come up in four or five weeks, otherwiſe they often remain as many months before they make their appearance. In either caſe, the mould muſt be kept moiſt in the pots by frequent ſprinkling with water; and when the plants appear, they muſt have as much air as their nature will allow, to prevent their drawing weak. When they are about three or four inches high, they muſt be potted ſeparately, and managed as the cuttings.

When good ſeeds can be procured, this is the more eligible method of propagating theſe ſpecies; for by this means not only the beſt plants are procured, but an amazing variety obtained; inſomuch that the ſeeds taken from the ſame tree, nay, from the ſame cone, will afford freſh plants, two of which will hardly be alike. They ſhould be placed in the houſe, where they can have clear light, and free air, for on this depends the ſilvery beauty of the leaves; and if the ſame plant is placed in an oppoſite ſituation, it will aſſume a different appearance to what it had before.

Titles. Argen-tea. 1. The firſt ſpecies is titled, *Protea foliis lanceolatis obliquis acutis ſparſis villoſo-ſericeis planis: floralibus verticillatis.* In the *Hortus Cliffort.* it is termed, *Protea foliis lanceolatis integerrimis hirſutis nitidis.* Plukenet calls it, *Leucadendros Africana arbor tota argentea ſericea, foliis integris*; Commeline, *Argyrodendros Africana, foliis ſericeis & argenteis*; Boerhaave, *Conocarpodendron foliis argenteis ſericeis latiſſimis*; Tournefort, *Globularia Africana fruteſcens, thymeleæ folio lanuginoſo*; Breynius, *Frutex Æthiopicus conifer, foliis cneori lanuginoſis ſalici æmulis*; and Zanoni, *Arbor ferens folia argentea.* It grows naturally at the Cape of Good Hope.

Conifera. 2. The ſecond ſpecies is titled, *Protea foliis lineari-lanceolatis integerrimis acutis glabris obliquatis.* Breynius calls it, *Frutex Æthiopicus conifer, foliis cneori ſalici æmulis*; Van Royen, *Protea foliis lineari-lanceolatis glabris, capitulis ſquamoſis, coronâ foliaceâ ſuccinctis*; alſo, *Protea foliis lineari-lanceolatis glabris, caule infernè radicato*; alſo, *Protea foliis lanceolatis acuminatis flexuoſis, capitulis coronâ foliaceâ ſuccinctis.* Boerhaave calls it, *Conocarpodendron folio rigido craſſo anguſto, cono laricis parvo*; alſo, *Conocarpodendron folio anguſto rigido brevi, cono parvo aureo coronâ foliaceâ ſuccincto*; alſo, *Conocarpodendron folio tenuiſſimo anguſtiſſimo ſaligno, cono calyculato*; alſo, *Conocarpodendron folio tenui anguſto ſaligno, cono calyculato coronâ foliaceâ ſuccincto.* It grows naturally at the Cape of Good Hope.

Claſs and order in the Linnæan Syſtem. The characters. *Protea* is of the claſs and order *Tetrandria Monogynia*; and the characters are,

1. Calyx. The common perianthium is roundiſh and imbricated, the ſcales being nearly oval.

2. Corolla. The general flower is uniform, and ſomewhat longer than the calyx. The florets have each one petal. The tube is the length of the calyx. The limb is the length of the tube, and cut into four ſmooth, equal, ſpreading ſegments.

3. Stamina are four ſetaceous filaments longer than the corolla, having incumbent antheræ.

4. Pistillum conſiſts of a roundiſh germen, a ſetaceous, erect ſtyle the length of the ſtamina, and an obtuſe ſtigma.

5. Pericarpium. There is none.

6. Semen. The ſeed is ſingle, roundiſh, and naked.

The receptacle is the ſhape of a cone.

CHAP CXXXVIII.

PSORALEA.

THIS genus affords three diſtinct ſpecies for the Green-houſe, called,

Species.
1. Pinnated *Pſoralea*, or Itch-tree.
2. Bituminous *Pſoralea*.
3. Aculeated *Pſoralea*.

Pinnated Pſoralea, or Herb-tree deſcribed. 1. Pinnated *Pſoralea*, or Itch-tree. The ſtalk is woody, ſoft, branching, and ſix or eight feet high. The leaves are pinnated, and conſiſt of about three or four pair of narrow folioles, terminated by an odd one; they are of a deep-green colour, grow on ſhort footſtalks, and are produced, without order, from the ſides of the branches. The flowers come out from the wings of the leaves, ſitting cloſe to the branches; their predominant colour is a beautiful blue, though the under parts are paler, and the keel white; they appear great part of the ſummer, and the ſeeds ripen in the autumn.

Bituminous Pſoralea deſcribed. 2. Bituminous *Pſoralea*. The ſtalks are woody, divide into a few branches, and are about two or three feet high. The leaves are trifoliate, grow on long footſtalks, and are poſſeſſed of a very ſtrong ſcent of Bitumen. The flowers are collected in roundiſh heads or ſhort ſpikes, growing on long footſtalks; they are of a blue colour, appear in July, Auguſt, and September, and the ſeeds ripen in regular ſucceſſion.

Aculeated Pſoralea deſcribed.

3. Aculeated *Pſoralea*. The ſtalks are woody, branching, and three or four feet high. The leaves are trifoliate; the folioles are wedge-ſhaped, and each of them terminates in a ſharp, recurved ſpine. The flowers come out in roundiſh heads from the ends of the branches; they are of a blue colour, appear in July, Auguſt, and September, and the ſeeds ripen in the autumn.

Culture.

Theſe plants are all raiſed by ſowing the ſeeds on a ſlight hotbed in the ſpring. When they come up, they muſt have as much air as the weather will permit, to prevent their drawing weak; and when they are fit to remove, each ſhould be ſet in a ſeparate pot filled with light, rich earth. They muſt be then plunged again into the bed, be watered, and kept ſhaded until they have taken root; afterwards they muſt be hardened by degrees to the open air; and when that is effected, they muſt be ſet abroad in ſome warm, well-ſheltered, ſhady place, for the remainder of the ſummer, and in the autumn be taken into the greenhouſe for their winter lodging.

They are alſo propagated by cuttings, which, if planted in pots in any of the ſummer months, and ſet in a ſhady part of the Green-houſe, will grow, and ſoon commence good plants. When they are in a good growing ſtate, they muſt be removed into the open air, like the ſeedlings, and at the end of autumn be taken into the Green-houſe.

The ſecond ſpecies is very hardy; and if there be plenty of plants, a ſhare of them may be ſet abroad in dry, warm, well-ſheltered places, to take their chance with the weather, as it ſhall happen.

Titles.

1. The firſt ſpecies is titled, *Pſoralea foliis pinnatis linearibus, floribus axillaribus.* In the *Hortus Cliffort.* it is termed, *Dorycnium caule fruticoſo, foliis pinnatis: foliolis linearibus.* Van Royen calls it, *Pſoralea foliis pinnatis: foliolis linearibus acuminatis*; Rivinus, *Spartium Africanum*; and Herman, *Geniſtæ affinis arbor Africana monoſpermos, flore cæruleo, foliis pinnatis.* It grows naturally in Æthiopia.

Pinnata.

2. The ſecond ſpecies is, *Pſoralea foliis omnibus ternatis: pedunculis capitatis.* In the *Hortus Cliffort.* it is termed, *Trifolium capitulis ſubrotundis, calycibus ventricoſis, caule arboreſcente.* Caſpar Bauhine calls it, *Trifolium bitumen redolens*; Dodonæus, *Trifolium bituminoſum*; and Boerhaave, *Trifolium bitumen redolens anguſtifolium.* It grows naturally in Italy, Sicily, and the South of France.

Bituminosa.

3. The third ſpecies is, *Pſoralea foliis ternatis foliolis cuneiformibus recurvato-mucronatis, capitulis terminalibus.* Van Royen calls it, *Pſoralea foliis ternis: foliolis cuneiformibus triquetris aculeatis*; Plukenet, *Cytiſi facie, lato ſubrotundo glabro & punctato folio*; and Ray, *Geniſta ſpartium Africanum tenuifolium, floribus cæruleis, foliis minimis in ſpinulam deſinentibus.* It grows naturally in Æthiopia.

Aculeata.

CHAP. CXXXIX.

PTERONIA.

THERE is only one ſpecies of this genus, called, *Pteronia*.

The plant deſcribed.

The ſtalk is ſhrubby, branching, and three or four feet high. The leaves are narrow, pointed, hairy, and of an aromatic odour. The flowers are produced at the tops of the ſtalks; they are large, and of a golden-yellow colour, appear in Auguſt and September, and are followed by oblong, compreſſed ſeeds, crowned with down.

Culture.

This plant is beſt propagated by ſowing the ſeeds on a hotbed in the ſpring. When the plants are three inches high, they muſt be planted in pots filled with light, freſh mould, then plunged again into the hot-bed, where they muſt be watered and kept ſhaded at firſt. When they have taken root, they muſt be hardened by degrees to the open air, and afterwards ſet abroad in ſome warm, well-ſheltered place. In the autumn they muſt be taken into the Green-houſe, and managed like other exotics in that ſituation.

Titles.

There being no other ſpecies of this genus, it is named ſimply, *Pteronia.* Vaillant calls it, *Pterophorus camphoratæ foliis ad margines piloſis*; and Plukenet, *Conyza aromatica fruteſcens Mauritanica, camphoratæ foliis ad margines piloſis, flore magno aureo ex floſculis fiſtularibus compoſito.* It grows naturally in Æthiopia.

Camphorata.

Claſs and orde in the Linnæan Syſtem. The characters.

Pteronia is of the claſs and order *Syngeneſia Polygamia Æqualis*; and the characters are,

1. Calyx. The general calyx is imbricated, the ſcales being ſpear-ſhaped, carinated, and acuminated.

2. Corolla. The compound flower is uniform. The florets are numerous, tubular, funnel-ſhaped, and cut at the brim into five acute, equal ſegments.

3. Stamina are five very ſhort, capillary filaments, having a cylindrical, tubular anthera.

4. Pistillum conſiſts of an oblong germen, a filiforme ſtyle the length of the ſtamina, and a bifid ſtigma.

5. Pericarpium. There is none.

6. Semina. The ſeeds are ſingle, oblong, compreſſed, and crowned with a ſeſſile, feathery down.

The receptacle is ſetoſe, and ſomewhat plane.

CHAP. CXL.

PUNICA, The POMEGRANATE-TREE.

THERE are two ſpecies of this genus, one bearing that celebrated fruit called Pomegranate; the other alſo bears Pomegranates, but of little reliſh, and is preſerved only for the beauty of the flowers, in all curious collections of plants. It is called, Dwarf Pomegranate.

The plant deſcribed.

The ſtalk is ſhrubby, branching, and four or five feet high. The leaves are narrow, ſhort, and of a pale-green colour. The flowers are produced along the upper-parts of the branches; they are of a fine red colour, appear in July, and continue in ſucceſſion until winter. The fruit is very ſmall, and of no value.

Culture.

This plant is propagated by layers, which ſhould be performed on the young ſhoots in the autumn. If they are duly watered, they will have taken root by the autumn following; but it will be beſt not to take them off before the ſpring. In the ſpring, therefore, let them be carefully taken off, and planted ſeparately in pots filled with good garden-mould, and plunged into a ſlight hotbed, to forward their growth. Water them, and keep them ſhaded at firſt, and then harden them by degrees to the open air. When this is effected, ſet them abroad in ſome warm, well-ſheltered place, where they may remain until October, and be then taken into a good Green-houſe for their winter lodging. Theſe plants muſt be ſhifted from time to time into larger pots, as often as they ſhall require it, and have the warmeſt part of the Green-houſe aſſigned them in winter. In ſummer they may be ſet abroad in warm, well-ſheltered places, and have frequent waterings; but when they ſhew ſigns of flowering, they ſhould be removed under ſhelter, becauſe the open air cauſes the bloſſoms, as they expand, to fall off. If there is, therefore, a glaſs-caſe, it will be moſt proper for this elegant flowering ſhrub to diſplay its beauties in. When it is thus placed, a due admiſſion of air, in the heat of the day, muſt be granted, and ſuitable waterings; it will then begin to flower early in the ſummer, will continue in ſucceſſion many months, and the fruit will come to perfection; but having no good reliſh, it is not at all regarded on that account.

In the warm parts of America, hedges for dividing the pleaſure-grounds are made of this ſhrub, for which purpoſe it is well adapted; and flowering there great part of the year, it affords exquiſite beauty for a long time.

Titles. Nana.

This ſpecies is titled, *Punica foliis linearibus, caule fruticoſo*. Tournefort calls it, *Punica Americana nana, ſ. humillima*. It grows naturally in the Antilles.

Claſs and order in the Linnæan Syſtem.

Punica is of the claſs and order *Icoſandria Monogynia*; and the characters are,

The characters.

1. CALYX is a monophyllous, bell-ſhaped, coloured, permanent perianthium, cut at the brim into five acute parts.

2. COROLLA conſiſts of five roundiſh, erect, patent petals, inſerted in the calyx.

3. STAMINA are numerous, capillary filaments ſhorter than the calyx, and inſerted into it, having oblongiſh antheræ.

4. PISTILLUM conſiſts of a germen ſituated below the receptacle, a ſimple ſtyle the length of the ſtamina, and a capitated ſtigma.

5. PERICARPIUM is a large, roundiſh apple, crowned with the calyx, and containing nine cells.

6. SEMINA. The ſeeds are many, roundiſh, and ſucculent.

CHAP. CXLI.

RHAMNUS.

THE ſpecies of this genus which require protection in winter are,

Species.

1. Common *Zizyphus*, or Jujube.
2. Wild *Zizyphus*.
3. Indian Jujube.
4. *Sarcomphalus*.
5. Hairy *Zizyphus*.
6. Broad-leaved Indian *Rhamnus*.
7. Rough-leaved *Rhamnus*.

Common Zizyphus deſcribed.

1. Common *Zizyphus*. This plant hath a thick, woody ſtalk, which riſes to eight or ten feet high, and divides irregularly into many crooked branches, that are armed by ſharp, ſtraight thorns, growing by pairs at the joints. The leaves are oval, oblong, ſerrated, and grow alternately on ſhort footſtalks. The flowers are digynous, and come out two or three together from the ſides of the branches, ſitting cloſe, without any footſtalks; they are ſmall, yellowiſh, and are ſucceeded by a large, oval fruit, having in it a large ſtone, like that of a plum.

This fruit has a ſweet taſte, and is uſed as a dry ſweetmeat in Italy, Portugal, and Spain, during the winter ſeaſon. It is an admirable pectoral, cooling in fevers, &c. and was formerly in much eſteem in the ſhops, but now gives way to others for the ſame purpoſes, which are ſuppoſed to poſſeſs greater force.

Wild Zizyphus deſcribed.

2. Wild *Zizyphus*. The ſtalks are woody, ſlender, and ſend forth ſeveral weak branches,

which are covered with a greyiſh bark; they are armed with ſharp ſpines, growing by pairs at the joints, one of which is long and ſtraight, the other ſhort and recurved. The leaves are ſmall, oval, oblong, veined, and ſit cloſe to the branches, without any footſtalks. The flowers come out from the wings of the leaves in ſmall cluſters; they are ſmall, greeniſh, and are ſucceeded by large, oval fruit, which are ſaid to be wholeſome when eaten as a ſweetmeat.

Indian Jujube deſcribed.

3. Indian Jujube. The ſtalk of this plant is woody, and ſends forth ſeveral branches, which are armed with crooked thorns, growing ſingly at the joints. The leaves are round, retuſe, and downy underneath. The flowers have footſtalks, and grow in cluſters at the ſetting-on of the leaves; they are ſmall, of a greeniſh-yellow colour, and are ſucceeded by large round fruit, of a ſweetiſh taſte when ripe.

This ſort is often called Indian Apple, and is a fruit much eſteemed in thoſe parts.

Sarcomphalus

4. *Sarcomphalus.* This plant hath a thick, woody ſtalk, which ſends forth ſeveral branches, that are unarmed with ſpines. The leaves are oval, ſmooth, coriaceous, and ſlightly indented at the top. The flowers come out from the ſides of the branches in ſmall cluſters, and are ſucceeded by roundiſh fruit, of a black colour when ripe.

and Hairy Zizyphus deſcribed.

5. Hairy *Zizyphus.* The ſtalks are woody, low, and ſend forth ſeveral branches, which are unarmed with ſpines. The leaves are oval, ſpear-ſhaped, hairy, and their edges ſlightly ſerrated. The flowers grow, three or four together, at the ſetting-on of the leaves; they are ſmall, of a greeniſh-yellow colour, and are ſucceeded by ſmall, roundiſh fruit, of a black colour when ripe.

Broad-leaved Indian

6. Broad-leaved Indian *Rhamnus.* This plant hath a robuſt, woody ſtalk, ſending forth many horizontal branches, which are deſtitute of ſpines. The leaves are very large, oval, undivided, ſhining, and very ornamental. The flowers grow erect, and each is cut into five ſpreading ſegments, which appear as ſo many diſtinct petals; they are of a greeniſh-yellow colour, ſmall, and are ſucceeded by roundiſh, naked capſules of three cells, in each of which is a ſingle ſeed.

and Rough-leaved American Rhamnus deſcribed.

7. Rough-leaved American *Rhamnus.* This hath a robuſt, woody ſtalk, like the former, ſending forth many branches from the ſides, which are unarmed with thorns. The leaves are very rough, ciliated, oval, and undivided. The flowers are all hermaphrodites, and are ſucceeded by trilocular capſules, containing the ſeeds.

Culture.

The propagation of all theſe ſorts is chiefly effected by ſuckers, which they often ſend forth plentifully; but the beſt way of raiſing them is from ſeeds, which ſhould be procured from the places where they naturally grow, for they rarely ever ripen in England. As ſoon as you receive them, let them be ſown in pots filled with light, ſandy, freſh earth, and in the ſpring plunge them up to the rims in a good hotbed. This will effectually bring up the plants, at which time they muſt have plenty of air, and frequent waterings, and be hardened by degrees to the open air. When this is effected, the pots ſhould be taken up, and placed at firſt in a ſhady, well-ſheltered place; where they muſt be conſtantly watered, as the dry weather makes it neceſſary, and in September be ſet under a ſouth wall, that they may have the benefit of the full ſun. There the firſt two ſorts may remain until the end of October, or later, before they are removed under ſhelter; but all the other ſpecies muſt be taken into the houſe with the moſt tender Green-houſe plants, and have a warm place aſſigned them for their winter lodging. In the ſpring, it will be proper to ſet each plant in its own ſeparate pot, and then plunge them into a hotbed, to facilitate their taking root. Water and ſhade them at firſt, uſe them to the open air by degrees, and then ſet them abroad, as in the preceding ſummer.

The firſt two ſorts are hardy enough to bear the cold of our common winters, if well ſituated; ſo that if there are plants enough, a few may be ſet abroad in warm, dry, well-ſheltered places, or trained up to a warm wall, or the like, and there will be a chance of their continuing for many years; but the others are very tender, and will hardly live in a Green-houſe, unleſs it is a good one; ſo that if there is room in the temperate ſtove, a plant or two of each ſort may be ſtationed there with the hardieſt ſtove-plants.

Titles:

1. Common *Zizyphus*, or Jujube, is titled, *Rhamnus aculeis geminatis rectis, floribus digynis, foliis ovato-oblongis glabris.* Dodonæus calls it, *Zizyphus*; and Caſpar Bauhine, *Jujuba ſylveſtris*; alſo, *Jujubæ majores oblongæ.* It grows naturally in the ſouthern parts of Europe. Zizyphus.

2. Wild *Zizyphus* is titled, *Rhamnus aculeis geminatis: altero recurvo, foliis ovato-oblongis.* Tournefort calls it, *Zizyphus ſylveſtris.* It grows naturally in the country about Tunis. Lotus.

3. Indian Jujube is titled, *Rhamnus aculeis ſolitariis recurvis, pedunculis aggregatis, floribus ſemidigynis, foliis retuſis ſubtus tomentoſis.* Plukenet calls it, *Jujuba Indica ſpinoſa, folio et fructu rotundo*; and Rumphius, *Malus Indica.* It grows naturally in India. Jujuba.

4. *Sarcomphalus* is titled, *Rhamnus inermis, foliis ovalibus coriaceis integerrimis emarginatis.* Brown calls it, *Sarcomphalus foliis ovatis glabris alternis apice leviter emarginatis, cortice interiore ferrugineo.* It grows naturally in America. Sarcom=phalus.

5. Hairy *Zizyphus* is titled, *Rhamnus inermis, foliis ovato-lanceolatis obliquis pubeſcentibus, ſtipulis lanceolatis deciduis.* Brown calls it, *Rhamnus an Zizyphus arboreſcens, foliis oblongo-ovatis hirſutis et leniter ſerratis*; and Plumier, *Muntingia folio corni, fructu minore.* It grows naturally in America. Micranthus.

6. Broad-leaved Indian *Rhamnus* is titled, *Rhamnus inermis, floribus monogynis hermaphroditis, capſulis trilocularibus, ramis horizontalibus, floribus erectis.* Commeline calls it, *Arbor baccifera Indica, foliis majoribus ſplendentibus, flore pentapetalo.* It grows naturally in America. Colubri=nus.

7. Rough-leaved American *Rhamnus* is titled, *Rhamnus inermis, floribus hermaphroditis, capſulis trilocularibus, foliis rugoſis integerrimis ciliatis.* It grows naturally in America. Cubenſis.

CHAP. CXLII.

RHUS, SUMACH.

THE real diſtinct African ſpecies of this genus are,

Species.

1. Downy African Sumach.
2. Narrow-leaved African Sumach.
3. Lucid or Shining-leaved African Sumach.

Downy African Sumach deſcribed.

1. Downy African Sumach. Of this ſpecies there are many varieties; but the moſt common one riſes with a ſhrubby ſtalk to the height of about eight feet, ſending forth ſeveral irregular branches from the ſides, which are covered with a brown bark. The leaves are trifoliate, and the folioles are of the figure of a rhombus, and each has its own ſeparate ſhort footſtalk; they are of a dark-green colour on their upper ſide, and downy underneath; the main footſtalk is very long. The flowers come out from the ſides of the branches in ſlender bunches; they are of a whitiſh-green colour, and of ſhort continuance; neither are they ſucceeded by ſeeds in our gardens.

Varieties.

The varieties of this ſpecies are,
Oval Indented-leaved,
Small Serrated-leaved,
Hairy-leaved,
Large Jagged-leaved, &c.

Theſe are of different growth; the lower kinds not growing higher than to about ſix feet, the longeſt to above twelve. The branches, as well as leaves, of ſome of them are pounced, or covered over with a fine down; and the leaves of all in the Green-houſe are preſerved all winter, which makes them very valuable.

Narrow-leaved African Sumach deſcribed.

2. Narrow-leaved African Sumach. This ſpecies alſo includes many ſorts. The ſtalks of all are woody, the branches irregular, and for the moſt part covered with a dark-brown bark, and in the different varieties grow from ſix to ten or twelve feet high. The leaves are trifoliate, very narrow, ſpear-ſhaped, of a ſtrong green colour, downy underneath, and have ſhort footſtalks, that join them to the main ſtalk, which is very long, and connects them with the branches. The flowers come out from the ſides of the branches in ſmall looſe bunches; they are of a whitiſh-green colour, and are not ſucceeded by ſeeds in England.

Varieties.

The varieties of this ſpecies are,
Green Narrow-leaved,
Silvery-leaved,
Short-ſtalked,
Cut-leaved, &c.

Lucid, or Shining-leaved African Sumach deſcribed.

3. Lucid or Shining-leaved African Sumach. This ſpecies riſes with a ſtrong woody ſtalk to the height of twelve feet, ſending forth ſeveral irregular branches, which are covered with a dark brown bark. The leaves are trifoliate; the folioles are of a ſhining or gloſſy green colour, wedge-ſhaped, and ſit cloſe to the footſtalks. The flowers are herbaceous, and come out from the ſides of the branches in ſmall bunches, but are not ſucceeded by ſeeds in England.

Varieties.

The varieties of this ſpecies are,
Round-leaved,
Cordated-leaved,
Dwarf,
Great Broad-leaved Shining Sumach.

Culture.

All theſe ſorts are eaſily raiſed by planting the cuttings, in April, in a bed of light, rich earth. They muſt be well watered, and the beds hooped, to be covered with mats in the heat of the day, and alſo in nights at firſt: They will readily ſtrike root; and in September, each plant ſhould be ſet in a ſeparate pot, and about the end of October ſhould be removed into the Green-houſe with other hardy plants.

Where there is no convenience of a light, freſh ſoil, which is propitious to cuttings, the beſt way will be to plant the cuttings in pots, and give them the aſſiſtance of a moderate hot-bed. When this method is purſued, they muſt be ſhaded and watered until they have taken root, and be hardened by degrees to the open air; the glaſſes may be then wholly taken off, and the plants may remain until they are removed into the Green-houſe, or they may be plunged up to the rims in the common mould of the garden. They are all very hardy, and will require the treatment of the hardieſt Green-houſe plants; they are very beautiful, as they retain their leaves all winter in the Houſe, and thereby, among other plants, cauſe a pleaſing variety in that ſeaſon.

Titles.

1. Downy African Sumach is titled, *Rhus foliis ternatis: foliolis ſubpetiolatis rhombeis angulatis ſubtus tomentoſis.* In the *Hortus Cliffort.* it is termed, *Rhus foliis ternatis: foliolis ovatis utrinque acutis dentatis: lateralibus petiolatis.* Van Royen calls it, *Rhus foliis ternatis: foliolis petiolatis ovatis acutis dentatis*; Plukenet, *Rhus Africanum trifoliatum majus, foliis obtuſis & inciſis hirſutis pubeſcentibus*; and Commeline, *Vitex trifolia minor Indica ſerrata.* It grows naturally at the Cape of Good Hope. Tomentosum.

2. Narrow-leaved African Sumach is titled, *Rhus foliis ternatis: foliolis petiolatis lineari-lanceolatis integerrimis ſubtus tomentoſis.* Plukenet calls it, *Rhus Africanum trifoliatum majus, foliis ſubtus argenteis acutis & margine inciſis*; and Burman, *Rhus fruticoſum, foliis trifidis linearibus acuminatis.* It inhabits Æthiopia. Angustifolium.

3. Lucid or Shining-leaved African Sumach is titled, *Rhus foliis ternatis: foliolis ſeſſilibus cuneiformibus lævibus.* Plukenet calls it, *Rhus Africanum trifoliatum minus glabrum, ſplendente folio ſubrotundo integro*; Burman, *Rhus arboreum trifoliatum latifolium*; and Commeline, *Vitex trifolia minor Indica rotundifolia.* It grows naturally at the Cape of Good Hope. Lucidum.

CHAP. CXLIII.

ROELLA.

Species.

THERE are two ſpecies of this genus, viz.
1. Ciliated *Roella.*
2. Reticulated *Roella.*

Ciliated

1. Ciliated *Roella.* The ſtalk is ligneous, covered with a brown bark, three or four feet high, and ſends forth numerous ſlender branches from the bottom to the top. The leaves are ſmall but firm, oblong, narrow, ſharp-pointed, of a chearful green colour, and are ciliated on each ſide with fine but ſtiff hairs. The flowers come out from the ends of the branches; they are large, and of a deep violet or purple colour; they appear in September, and are ſucceeded by cylindrical capſules containing the ſeeds. There is a variety of this ſpecies with red, and another with whitiſh flowers.

and Reticulated Roella deſcribed.

2. Reticulated *Roella.* The ſtalks are tough, ſomewhat ligneous near the bottom, branching, and three or four feet high. The leaves are reticulated, prickly, ciliated, imbricated, and each is terminated by a reflexed ſharp point. The flowers come out from the ends of the branches; they are large, and of a whitiſh-red or purple colour; they appear in Auguſt and September, and are ſucceeded by cylindrical capſules like the former.

Culture.

Theſe are beſt raiſed by ſowing the ſeeds on a hotbed in the ſpring; and when the plants are fit to remove, they muſt be planted ſeparately in ſmall pots, filled with light, rich earth, and then plunged into a freſh hotbed. Here they muſt be watered and ſhaded until they have taken root, and after they have commenced a good growing ſtate, muſt be hardened by degrees to the open air: When that is effected, they muſt be ſet abroad in a warm, well-ſheltered place, and in the autumn taken into the Green-houſe with the more tender kinds of Green-houſe plants.

Titles.

1. The firſt ſpecies is titled, *Roella foliis ciliatis: mucrone recto.* In the *Hortus Cliffort.* it is named ſimply, *Roella.* Plukenet calls it, *Aculeoſa Mauritanica, ericæ foliis hirſutis rigidis infeſto mucrone pungentibus*; Seba, *Campanula Africana humilis piloſa, flore exalbido lanugine purpureo*; and Commeline, *Campanula Africana fruteſcens aculeoſa, flore violaceo.* It grows naturally in Mauritania and Æthiopia.

Ciliata

2. The ſecond ſpecies is titled, *Roella foliis ciliatis: mucrone reflexo.* Van Royen calls it, *Roella foliis imbricatis*; and Petiver, *Campanula Capitis Bonæ Spei, foliis reticulatis ſpinoſis.* It grows naturally at the Cape of Good Hope.

Reticulata.

Claſs and order in the Linnæan Syſtem. The characters.

Roella is of the claſs and order *Pentandria Monogynia*; and the characters are,

1. Calyx is a monophyllous, turbinated, permanent perianthium, placed about the germen, and divided into five large, ſpear-ſhaped, acute, indented ſegments.

2. Corolla is one infundibuliforme, deciduous petal; the tube is a little ſhorter than the calyx; the limb is longer than the calyx, and divided into five erect, ſpreading parts.

The nectarium is compoſed of five connivent ſcales in the bottom of the corolla.

3. Stamina are five awl-ſhaped filaments ſitting on the nectarium, having awl-ſhaped, connivent antheræ the length of the filaments, and the height of the cup.

4. Pistillum conſiſts of an oblong germen ſituated below the calyx, a filiforme ſtyle the length of the ſtamina, and two oblong, depreſſed, patent ſtigmas.

5. Pericarpium is a cylindrical, coronated capſule, ſhorter than the calyx and containing two cells; it is the permanent calyx, which is become larger and more expanded than at firſt, that forms the corona to this capſule.

6. Semina. The ſeeds are many, and angular.

* * *

CHAP. CXLIV.

ROYENA, AFRICAN BLADDER-NUT.

Species.

THE following ſpecies conſtitute this genus:
1. Lucid African Bladder-Nut.
2. Smooth African Bladder-Nut.
3. Hairy African Bladder-Nut.

Lucid African,

1. Lucid African Bladder-Nut. The ſtem is upright, woody, firm, ſends out branches from every ſide, and the ſhrub grows to be eight or ten feet high. The leaves are of an oval figure, and are placed alternately on the branches; they are of a moſt ſplendid green colour, and afford exquiſite beauty in winter, among other different tinges of that colour in the Houſe. The flowers are produced along the ſides of the upper parts of the branches; they appear in July and Auguſt, but the ſeeds ſeldom ripen in England.

and Smooth African Bladder-Nut deſcribed.

2. Smooth African Bladder-Nut. The ſtalk is woody, branching, five or ſix feet high, and

covered with a purpliſh bark. The leaves are ſmall, oval, ſpear-ſhaped, ſmooth, of a ſhining green colour, and have a pretty effect in the winter, among other Greens in the Houſe. The flowers are produced from the wings of the leaves; they are ſmall, and of a white colour; they appear in July and Auguſt, and are ſucceeded by oval purple fruit, containing ripe ſeeds, in the winter.

Hairy African Bladder-Nut deſcribed.

3. Hairy African Bladder-Nut. The ſtem is woody, of a grey colour, firm, ſends out branches alternately, and grows to be ſix or eight feet high. The leaves are ſpear-ſhaped, entire, hoary, and hairy. The flowers are produced on ſhort footſtalks from the wings of the leaves, along the ſides of the branches; they are ſmall, and of a bad purple colour; they appear in July, but are rarely ſucceeded by ſeeds in theſe parts.

Culture.

Theſe ſpecies are beſt propagated by feeds; but as the firſt and third ſorts rarely ripen in England, they muſt be procured from the countries where they naturally grow. Having procured ſome good ſeeds of any of the ſorts, let them be ſown in pots, filled with good garden mould made light with a ſmall mixture of ſand, and plunged into a hotbed of tanner's bark. When the plants come up, let them be nurſed with the uſual tender care, until they are about three inches high; then let them be potted ſeparately, be again plunged into the hotbed, and watered and kept ſhaded until they have taken root; after which they muſt be hardened by degrees to the open air, and then ſet abroad in ſome warm well-ſheltered place, to remain there until the autumn, and be afterwards taken into the Green-houſe with the other plants.

They are alſo by layers encreaſed. This muſt be performed on the young ſhoots as they grow in the ſummer, for the wood even of the laſt year's growth only, is with difficulty made to ſtrike root.

They are alſo propagated by cuttings. Theſe muſt be planted in pots in the ſpring, and plunged into a good hotbed of tanner's bark. If they are cloſely covered down at firſt, and duly watered, ſome of them will grow; when they ſhould be hardened by degrees to the open air, be potted ſeparately, and managed as the ſeedlings.

They are alſo multiplied by ſuckers, which frequently ariſe from the root; and if theſe are ſlipt off, and planted ſeparately in pots, they will grow (eſpecially if they are aſſiſted by a moderate warmth of dung or tanner's bark), and ſoon commence good plants.

Titles.

1. The firſt ſpecies is titled, *Royena foliis ovatis ſcabriuſculis.* Commeline calls it, *Staphylodendron Africanum ſempervirens, foliis ſplendentibus*; Herman, *Staphylodendron Africanum, folio ſingulari lucido*; and Plukenet, *Piſtacia Africana.* It grows naturally at the Cape of Good Hope. Lucida

2. The ſecond ſpecies is titled, *Royena foliis lanceolatis glabris.* In the *Hortus Cliffort.* it is termed, *Royena foliis lanceolatis.* Commeline calls it, *Vitis idæa Æthiopica, buxi minoris folio, floribus albis*; and Plukenet, *Vitis idæa Æthiopica, myrti foliis, floſculis dependentibus.* It grows naturally at the Cape of Good Hope. Glabra.

3. The third ſpecies is titled, *Royena foliis lanceolatis hirſutis.* In the *Hortus Cliffort.* it is termed, *Arbutus foliis lanceolatis integerrimis hirſutis.* Boerhaave calls it, *Staphylodendron Africanum, folio lanuginoſo roſmarini latiore.* It grows naturally at the Cape of Good Hope. Hirsuta.

Claſs and order in the Linnæan Syſtem. The characters.

Royena is of the claſs and order *Decandria Monogynia*; and the characters are,

1. Calyx is a monophyllous, permanent perianthium, cut into five parts at the top.

2. Corolla is one petal; the tube is the length of the calyx; the limb is divided into five oval, patent, revoluted ſegments.

3. Stamina are ten very ſhort filaments growing to the corolla, having oblong, acute, didymous, erect antheræ, the length of the tube.

4. Pistillum conſiſts of an oval germen, and two ſtyles a little longer than the ſtamina, with ſimple ſtigmas.

5. Pericarpium is an oval, four-furrowed capſule, formed of four valves, and containing one cell.

6. Semina. The ſeeds are four oblong triangular nuts, ſurrounded by a membrane.

C H A P. CXLV.

RUMEX, DOCK.

OUR Green-houſes exhibit a ſpecies of this genus, called the Sorrel Tree.

The plant deſcribed.

The ſtalk of this ſpecies is woody, ſmooth, brown, branching, and will grow to be eight or ten feet high. The leaves are roundiſh, heart-ſhaped, ſmooth, have moderately long footſtalks, and grow alternately on the branches. The flowers are of a greeniſh colour, and of very little figure; they grow in kind of panicles from the upper parts of the plant, and are ſucceeded by three-cornered ſeeds, which ſometimes ripen in England.

Culture.

This ſpecies is eaſily propagated by planting the cuttings in any of the ſummer months. They ſhould be planted in pots filled with any common garden mould; and the pots ſhould be ſet in the Green-houſe, at a diſtance from the windows, until they have taken root; or they may be plunged up to the rims in a ſhady part of the Kitchen-garden. Here they may remain until the autumn, when they ſhould be removed into the Green-houſe, and ſet in a place where they can have as much free air as poſſible; for the plant is tolerably hardy, and requires only to be protected from froſt.

Titles. The Sorrel Tree is titled, *Rumex floribus hermaphroditis valvulis lævibus, caule arboreo, foliis ſubcordatis.* Lunaria. Plukenet calls it, *Acetoſa arboreſcens, ſubrotundo folio*; and John Bauhine, *Lunaria magorum Arabum.* It grows naturally in the Canary Iſlands.

CHAP. CXLVI.

SALVIA, SAGE.

THE following plants will ſucceed even in the coldeſt part of the Green-houſe:

Species.
1. Shrubby Apple-bearing Sage of Crete.
2. African Sage.
3. Golden Sage.
4. Canary Sage.
5. Mexican Sage.

Shrubby Apple-bearing Sage of Crete deſcribed. 1. Shrubby Apple-bearing Sage of Crete. This ſpecies riſes with a ſhrubby, branching ſtalk to the height of about five feet. The leaves are ſpear-ſhaped, oval, entire, a little crenated, and hoary. The flowers are produced from the ends of the branches in ſpikes; their colour is blue, and they have obtuſe cups. There is a variety of this ſort with curled leaves.

African, 2. African Sage. This ſpecies was formerly called African Blue Sage, to diſtinguiſh it from the Golden ſort, which is alſo a native of that part of the world. The ſtalk is ſhrubby, branching, and grows to about five feet high. The leaves are roundiſh, ſerrated, grey, and are indented as if torn at their baſe. The flowers ſurround the ends of the branches in whorls; they are very large, and of a fine blue colour; they appear early in ſummer, and often continue the ſucceſſion until autumn, by which time good ſeeds from the firſt-blown flowers are frequently collected.

Golden, 3. Golden Sage. This alſo is an African Shrub. It grows to about ſeven feet high; the main ſtem is of a dark-brown colour, but the young branches are paler; they are ſquare at their firſt coming out, but as they grow older and more ligneous, they will become round. The leaves are roundiſh, entire, grey, of a firm conſiſtence, and are dentated and truncated at their baſe. The flowers are of a golden yellow colour, and are produced in ſhort cloſe ſpikes, at the ends of the branches; they are large, conſpicuous, and make a fine figure; they come out early in ſummer, but ſeldom ripen their ſeeds in our gardens.

Canary, 4. Canary Sage. This ſpecies is a native of the Canary Iſlands. The ſtalk is woody, branching, and downy. The leaves alſo are downy, haſtated, triangular, oblong, crenated, and obtuſe. The flowers are produced in whorls at the ends of the branches; they appear in ſummer, and will ſometimes continue their blow for two or three months.

and Mexican Sage deſcribed. 5. Mexican Sage. This plant grows to about ten feet high; the main ſtalk is woody, and the branches are of a purpliſh colour, four-cornered, ſlender, and hairy. The leaves are oval, pointed at both ends, ſerrated underneath, and grow on long ſlender footſtalks. The flowers are produced from the ends of the branches in cloſe ſpikes; their colour is blue, and they make their appearance in winter, but never produce ſeeds in our gardens.

Culture. All theſe ſorts are eaſily encreaſed by the cuttings. Plant ſeveral of theſe in very large pots, filled with light ſandy earth; you may ſet them pretty cloſe together, and any of the ſummer months is a good ſeaſon for that purpoſe. Give them a good watering, and remove them into the Green-houſe, placing them where no ſun can come at them; water them every day; and when you find they have ſtruck root, take the pots out of the Green-houſe, and plunge them up to the rims in ſome ſhady part of the garden: Here let them remain, with watering as the ſeaſon makes it neceſſary, until the end of October, and then place them in the Green-houſe for their winter quarters. In the ſpring remove each plant to its own ſeparate pot, filled with good light earth; and afterwards let them be ſet abroad with other Green-houſe plants, and be houſed in the autumn with them, obſerving always to ſtation them where they can have as much free air as poſſible, during their ſtay in that houſe.

Titles. 1. Shrubby Apple-bearing Sage of Crete is titled, *Salvia foliis lanceolato-ovatis integris crenulatis, floribus ſpicatis, calycibus obtuſis.* Pomifera. Tournefort calls it, *Salvia Cretica fruteſcens pomifera, foliis longioribus incanis & criſpis*; and Caſpar Bauhine, *Salvia baccifera.* It grows naturally in Crete.

2. African Sage is titled, *Salvia foliis ſubrotundis ſerratis, baſi truncatis dentatis.* Africana. Commeline calls it, *Salvia Africana fruteſcens, folio ſcorodoniæ, flore violaceo*; and Plukenet, *Horminum haſtatis amplioribus foliis, caulibus & pediculis araneoſâ lanugine.* It grows naturally at the Cape of Good Hope.

3. Golden Sage is titled, *Salvia foliis ſubrotundis integerrimis: baſi truncatis dentatis.* Aurea Commeline calls it, *Salvia Africana fruteſcens, folio ſubrotundo glauco, flore magno aureo.* It grows naturally by the rivulets at the Cape of Good Hope.

4. Canary Sage is titled, *Salvia foliis haſtato-triangularibus oblongis crenatis obtuſis.* Canariensis. Moriſon calls it, *Horminum Canarienſe tomentoſum, haſtato folio.* It grows naturally in the Canaries.

5. Mexican Sage is titled, *Salvia foliis ovatis utrinque acuminatis ſerratis.* Mexicana. Dillenius calls it, *Sclaria Mexicana altiſſima, facie heliotropii.* It grows naturally in Mexico.

CHAP. CXLVII.

SATUREJA, SAVORY.

THE following ſpecies of this genus require the protection of a little ſhelter, to ſecure them from the inſults of our ſevereſt blaſts:

Species.
1. St. Julian's *Thymbra*, or True Savory.
2. Legitimate *Thymbra*.
3. Legitimate Thyme.
4. Cretan Field Baſil.

St. Julian's 1. St. Julian's *Thymbra*, or True Savory. The ſtalks of this plant are erect, ſlender, a little branching, and grow to about nine inches high. The leaves are ſpear-ſhaped, narrow, ſtiff, finely ſcented, ſmooth, and grow oppoſite to each other. The flowers grow in whorls round the ſtalks, bundled together in great plenty; they are ſmall, of a white colour, and very fragrant; they come out in July, but ſeldom produce good ſeeds in our gardens.

and Legitimate Thymbra deſcribed 2. Legitimate *Thymbra*. The ſtalks of this plant are ſhrubby, branching, and grow to about two feet high. The leaves are oblong, oval, acute, and ſtiff. The flowers grow in thick whorls round the ſtalks near the top; they are of a red colour, and there will be a ſucceſſion of them from June to the end of Auguſt, though they are very rarely ſucceeded by good ſeeds with us. This plant is a very fine aromatic.

Legitimate Thyme deſcribed. 3. Legitimate Thyme. This is a ſhrubby, branching, hoary plant, about nine inches high. The leaves are ſtiff, hollowed, narrow, ſpear-pointed, and hoary. The flowers terminate the branches in roundiſh ſpikes; they are ſmall, white, and are never ſucceeded by ſeeds in our gardens. This plant alſo is a very fine aromatic.

Cretan Field Baſil deſcribed. 4. Cretan Field Baſil. This plant has uſually been taken for an Annual; but if it has the protection of a Green-houſe, or hotbed-frame, it may be continued for ſome years. The ſtalks are ſlender, and ſcarcely grow to a foot high. The leaves are ſpear-ſhaped, narrow, but not very ſharp-pointed. The flowers grow from the ſides of the ſtalks, at the joints, in a kind of corymbus; they flower in ſummer, and ſometimes produce ſeeds in our gardens.

Culture. All theſe ſorts are of ſhort duration, ſeldom ſhowing themſelves in perfection longer than three or four years; ſo that recourſe to raiſing new plants ſhould be had at proper intervals. In order for this, let ſome good ſlips or cuttings be procured in any of the ſummer months, and plant theſe in pots filled with undunged earth. Remove them into the Green-houſe, and place them where no ſun can come at them. Water them duly, and in a very little time they will ſtrike root. As ſoon as you find them in a growing ſtate, take them out of the Green-houſe, and plunge the pots up to the rims in a ſhady part of the garden. Here let them remain until the end of October, or later if the weather will permit, and then place them in the coldeſt part of the Green-houſe, or under an hotbed-frame, to preſerve them through the winter.

If the cuttings are planted in a ſhady border, or in pots plunged up to the rims in a ſhady border, and duly watered, they will grow, though not ſo readily as if placed firſt in the Green-houſe.

The Cretan Field Baſil muſt have little or no water during winter; and in order to continue it, recourſe to planting the cuttings ſhould be more duly attended to than with any of the other ſorts.

Titles. 1. St. Julian's *Thymbra*, or True Savory is titled, *Satureja verticillis faſtigiatis, foliis lineari-lanceolatis.* Van Royen calls it, *Satureja floribus verticillatis, foliis lanceolatis glabris*; Caſpar Bauhine, *Satureja ſpicata*; Moriſon, *Satureja perennis, verticillis ſpicatim & denſius diſpoſitis*; and Lobel, *Thymbra ſancti Juliani, ſive ſatureja verior.* It grows naturally in Spain and Italy. Juliana.

2. Legitimate *Thymbra* is titled, *Satureja verticillis ſubrotundis hiſpidis, foliis oblongis acutis.* In the *Hort. Cliff.* it is termed, *Thymus fruteſcens, verticillis fere nudis globoſis, foliis ovato-lanceolatis.* Caſpar Bauhine calls it, *Satureja Cretica*; Barrelier, *Thymum Creticum pone verticillatum*; and Cluſius, *Thymbra legitima.* It grows naturally in Crete. Thymbra.

3. Legitimate Thyme is titled, *Satureja floribus ſpicatis, foliis carinatis punctatis ciliatis.* Caſpar Bauhine calls it, *Thymus capitatus Dioſcoridis*; Barrelier, *Thymum Creticum incanum capitatum*; and Cluſius, *Thymum legitimum.* It grows naturally in Crete. Capitata.

4. Cretan Field Baſil is titled, *Satureja pedunculis ſubtrifloris lateralibus, involucellis calyce brevioribus.* Moriſon calls it, *Satureja annua Orientalis tenuior, ad ſingulos nodos florifera*; Plukenet, *Clinopodium minus exoticum, thymi folio majore, inodorum*; and Alpinus, *Clinopodium Creticum.* It is a native of Crete. Græca.

CHAP.

CHAP. CXLVIII.

SCABIOSA, SCABIOUS.

Species.

THERE muſt be ſtationed in the Green-houſe,
1. African Scabious.
2. Rigid Æthiopian Scabious.

African

1. African Scabious. The ſtalk is woody, divides into ſeveral branches, and grows to be five feet high. The leaves are oval, ſpear-ſhaped, rough, hairy, crenated on their edges, of a light-green colour on the upper ſide, and hoary underneath. The flowers come out on naked footſtalks from the ends of the branches; they are of a pale fleſh colour, appear early in the ſummer, and frequently continue in ſucceſſion until the autumn, by which time ripe ſeeds from the firſt-blown flowers may be ſometimes collected.

There are ſeveral varieties of this ſpecies, differing in their ſize of growth, and colour of their leaves and flowers.

and Rigid Æthiopian Scabious deſcribed.

2. Rigid Æthiopian Scabious. The ſtalk is ſhrubby, upright, firm, divides into a few ſpreading branches, and grows to about two or three feet high. The leaves are ſpear-ſhaped, rigid, ſhining, and ſerrated on their edges. The flowers come out ſingly from the ends of the branches on naked footſtalks; they are of a white colour, appear in July, and are ſometimes ſucceeded by ripe ſeeds in our gardens.

Culture.

Theſe plants are eaſily propagated by planting the ſlips or cuttings in any of the ſummer months. They muſt be ſhaded at firſt, and duly watered; and after they have taken root, they may be ſet in pots filled with light, rich earth. In removing them, be careful to preſerve a ball of earth to each root; then give them a good watering, and afterwards ſet them in a ſhady place until the end of October, when they may be removed into the Green-houſe with the hardieſt kinds of plants, and managed accordingly.

Titles.

1. The firſt ſpecies is titled, *Scabioſa corollulis quinquefidis, foliis inciſis, caule fruticoſo.* Herman calls it, *Scabioſa Africana fruteſcens*; alſo, *Scabioſa Africana fruteſcens maxima, foliis rugoſis, & crenatis, minor*; Boerhaave, *Scabioſa Africana fruteſcens maxima, foliis tenuiſſimè inciſis*; and Breynius, *Scabioſa minor Æthiopica fruteſcens, foliis lanuginoſis.* It grows naturally in Africa and the Eaſt.

Africana.

2. The ſecond ſpecies is titled, *Scabioſa corollulis quadrifidis ſubradiantibus, ſquamis calycinis obtuſis, foliis lanceolatis ſerratis.* Commeline calls it, *Scabioſa Africana fruteſcens, foliis rigidis ſplendentibus et ſerratis, flore albicante.* It grows naturally in Æthiopia.

Rigida.

CHAP. CXLIX.

SCHREBERA.

THIS genus at preſent conſiſts only of one ſpecies, called, *Schrebera.*

The plant deſcribed.

The ſtalk is woody, divides into numerous round, ſoft, downy branches, which retain the marks of fallen leaves, and the ſhrub grows to be three feet high. The leaves are ſpear-ſhaped, bright on their upper ſide, ſlightly ſerrated towards the extremity, and grow on ſhort, downy footſtalks. The flowers come out in looſe bunches from the diviſions of the branches; they are of a white colour, appear in July and Auguſt, but are rarely ſucceeded by ſeeds in England.

Culture.

This is propagated from ſeeds procured from abroad, and by cuttings. The ſeeds ſhould be ſown in pots filled with light, freſh earth, and plunged into a hotbed of tanner's bark. The mould in the pots muſt be kept moiſt by frequent ſprinklings of water, the better to facilitate the growth of the ſeeds. When they come up, the uſual tender care muſt accompany them until they are three inches high; then they ſhould be carefully ſhook out of the pots, obſerving to injure the roots as little as poſſible, and planted ſeparately in ſmall pots, filled with the like kind of light, freſh earth. They muſt next be plunged into the bark-bed, be watered, and ſhaded from the heat of the ſun until they have taken root; afterwards they muſt be hardened gradually to the open air, but ſhould not be taken out of the hotbed until the autumn. It will be proper during the firſt winter to place them in a very temperate ſtove; and afterwards they will ſucceed well in a good Green-houſe, or a glaſs-caſe, where they can be kept warm in cold weather, and have freſh air on all favourable occaſions. In ſummer they may be ſet abroad with other tender Green-houſe plants, and muſt then have frequent waterings; but in winter they will require very little, over-watering at that ſeaſon cauſing the young ſhoots to grow mouldy, and rot. They muſt from time to time be ſhifted into larger pots, as often as they ſhall require it; and in every reſpect meet with treatment ſuitable to plants of the like nature.

They are alſo raiſed by cuttings. Theſe may be planted in the open ground, in any of the ſummer months; but muſt be covered down at firſt with bell or hand-glaſſes. They muſt be ſhaded from the heat of the ſun, and muſt be frequently, though ſparingly, watered; and when they begin to ſhoot, one edge of each glaſs ſhould be raiſed by a brick, forked ſtick, or the like, to give them air; and this muſt be encreaſed by degrees until they can bear the full air; ſoon after which they ſhould be taken up, with a ball of earth to each root, and planted ſeparately in pots filled with light, freſh earth. They ſhould then be watered to ſettle the mould to the roots, and ſet in a ſhady place until they have commenced a good growing ſtate, when they ſhould be removed into a warm ſituation, where they ſhould continue until the autumn, and afterwards be managed like the ſtrong ſeedlings in their ſecond year's growth.

Titles. There being no other ſpecies of this genus, it is ſimply named, *Schrebera*. In the former edition of the *Species Plantarum* it is termed, *Schinus foliis ſimplicibus lanceolatis ſinuatis*. It grows naturally at the Cape of Good Hope.

Schinoides

Claſs and order in the Linnæan Syſtem. *Schrebera* is of the claſs and order *Pentandria Digynia*; and the characters are,

The characters.

1. Calyx is a perianthium, divided into five oval, equal parts, which are about half as long as the corolla.

2. Corolla is one infundibuliforme petal, cut into five oblong, obtuſe ſegments.

The nectarium conſiſts of five ſmall, roundiſh, ſubciliated ſcales, at the inſide of the bottom of the filaments.

3. Stamina are five filiforme filaments, inſerted in the mouth of the corolla, and ſhorter than the ſegments, having roundiſh antheræ.

4. Pistillum conſiſts of a roundiſh, bilobed germen, and two filiforme ſtyles ſhorter than the ſtamina, with clavated ſtigmas the length of the ſtyles.

5. Pericarpium is a depreſſed drupe, containing two cells.

6. Semen. The ſeed is ſingle.

⁂

CHAP. CL.

SELAGO.

Of this genus are,

Species.

1. Corymboſe *Selago.*
2. Verticillated *Selago.*
3. Rapunculoide *Selago.*
4. Crimſon *Selago.*
5. Spurious *Selago.*
6. Dubious *Selago.*
7. *Lychnidea Selago.*

Corymboſe, 1. Corymboſe *Selago*. The ſtalks are ſlender, ligneous, ſend out many weak, ſlender branches from the ſides, and grow to ſix or eight feet high. The leaves are very narrow, hairy, and are collected in bunches along the ſides of the branches. The flowers are produced in large corymbous bunches at the tops of the ſtalks; theſe bunches are compoſed of many ſmall umbels collected together, but the flowers ſeparately are ſmall, and of a ſnow-white colour; they appear in July and Auguſt, and are ſeldom ſucceeded by ſeeds in England.

Verticillated, 2. Verticillated *Selago*. The ſtalks are ſhrubby, rough, and ſend out branches alternately from the ſides. The leaves are long, narrow, ſmooth, acute, and ſurround the ſtalks in whorls at the joints. The flowers are collected in oblong ſpikes at the tops of the ſtalks; they have very long tubes, having the limb divided into five nearly equal, narrow, hairy ſegments; they appear about the time of the former, but the ſeeds rarely ripen in England.

Rapunculoide, 3. Rapunculoide *Selago*. The ſtalks are thick, upright, branching, and five or ſix feet high. The leaves are long, very narrow, and indented on their edges. The flowers are produced in corymbous ſpikes at the tops of the ſtalks; they are of a white or blue colour, appear in July and Auguſt, and continue in ſucceſſion until the autumn.

Crimſon, 4. Crimſon *Selago*. The ſtalks are herbaceous, tender, branching, and grow to five or ſix feet high. The lower leaves are linear and entire, but the upper ones are ſpeared, awl-ſhaped, and ſlightly indented on their edges. The flowers are produced in corymbous ſpikes, at the tops of the ſtalks; they are of a bright-ſcarlet colour, appear in July and Auguſt, and the ſeeds ripen in the autumn.

Spurious, 5. Spurious *Selago*. The ſtalks are ligneous, branching, and grow to five or ſix feet high. The leaves are narrow, ſlightly indented on their edges, and grow in cluſters alternately along the ſides of the branches. The flowers are produced at the tops of the ſtalks in oval, oblong, obtuſe, imbricated ſpikes; they are of a deep-blue, or violet colour, appear in the ſummer, and are ſucceeded by ſix valved capſules, containing the ſeeds.

Dubious, 6. Dubious *Selago*. The ſtalk is upright, woody, branching, and grows to three or four feet high. The leaves are narrow, acute, and grow alternately. The flowers terminate the branches in a ſimple racemus; they are diandrous, appear in July and Auguſt, but are not ſucceeded by ſeeds in England.

and Lychnidea Selago deſcribed. 7. *Lychnidea Selago*. The ſtalk is upright, hairy, branching a little, and grows to three or four feet high. The leaves are ſpear-ſhaped, obtuſe, ſerrated, a little downy, and grow on ſhort footſtalks. The flowers come out in ſpikes at the tops of the ſtalk; they appear in July and Auguſt, and the ſeeds ripen in the autumn.

Culture. Theſe are propagated by planting the cuttings, in any of the ſummer months. The beſt way is to ſet them pretty cloſe together, in the open ground, in ſome rich part of the garden; then hoop and cover them cloſe down with mats. If they are duly watered they will ſoon ſhew ſigns of growth, when the mats ſhould be raiſed by degrees, to give them air, to prevent their drawing weak; and this gradual hardening of them muſt be continued until they can bear the full air, when the mats muſt be wholly taken off. When they have made pretty good ſhoots, they muſt be taken up, with a good ball of earth to each root, and planted ſeparately in pots filled with good, freſh earth. They muſt next be watered, and ſet in the ſhade until they are eſtabliſhed in their new ſituation, when they ſhould be removed into a warm place, to remain there until the end of autumn, and then be taken into ſhelter with the hardier kinds of Green-houſe plants.

They are alſo raiſed by ſeeds, when good ones can be procured. Theſe muſt be ſown on a hotbed in the ſpring. When the plants are three or four inches high, they ſhould be potted ſeparately, be again plunged into the hotbed, watered and kept ſhaded until they have taken root. They muſt then be hardened by degrees to the open air, be ſet abroad, and managed like the cuttings.

Titles. Corymbosa 1. The firſt ſpecies is titled, *Selago corymbo multiplici, floribus disjunctis, foliis filiformibus faſciculatis.* In the *Hortus Cliffort.* it is termed, *Selago caule erecto, corymbo terminali.* Commeline calls it, *Camphorata Africana umbellata fruteſcens*; and Moriſon, *Millefolio affinis Maderaſpatana, camphoratæ foliis radiatim naſcentibus.* It grows naturally in Æthiopia.

Pinastra 2. The ſecond ſpecies is titled, *Selago ſpicis corymboſis hirſutis, foliis verticillatis linearibus.* Commeline calls it, *Valeriana Africana fruticans, foliis longis & anguſtis.* It grows naturally at the Cape of Good Hope.

Rapunculoides 3. The third ſpecies is titled, *Selago ſpicis corymboſis, foliis dentatis.* Burman calls it, *Rapunculus foliis anguſtiſſimis dentatis floribus umbellatis.* It grows naturally in Æthiopia.

Coccinea. 4. The fourth ſpecies is titled, *Selago ſpicis corymboſis, foliis inferioribus linearibus integerrimis: ſuperioribus lanceolato-ſubulatis ſubdentatis.* It grows naturally at the Cape of Good Hope.

Spuria. 5. The fifth ſpecies is titled, *Selago ſpicis corymboſis, foliis linearibus denticulatis.* Burman calls it, *Melampyrum Africanum ſpicatum, foliis anguſtiſſimis.* It grows naturally in Æthiopia.

Dubia. 6. The ſixth ſpecies is titled, *Selago? racemo ſimplici, foliis linearibus alternis, floribus diandris.* Burman calls it, *Thymelæa foliis anguſtiſſimis linearibus, floſculis ſpicatis*; Plukenet, *Thymelæa Æthiopica ſpicata glabra, foliis longioribus anguſtis*; Ray, *Valerianoides parva, foliis caule raris, ſpicâ in ſummo caule oblongâ ex foliolis & floſculis confertis compoſitâ*; and Commeline, *Valeriana Africana fruticans, foliis ericæ.* It grows naturally in Æthiopia.

Lychnidea. 7. The ſeventh ſpecies is titled, *Selago ſpicâ terminali, foliis ſubpetiolatis lanceolatis obtuſiuſculis ſerratis ſubtomentoſis.* Burman calls it, *Lychnidea villoſa, foliis oblongis dentatis, floribus ſpicatis.* It grows naturally at the Cape of Good Hope.

Claſs and order in the Linnæan Syſtem. The characters. *Selago* is of the claſs and order *Didynamia Angioſpermia*; and the characters are,

1. CALYX is a ſmall, monophyllous, permanent perianthium, cut into four parts, the lower ſegment being the largeſt.

2. COROLLA is one petal. The tube is ſmall, filiforme, and ſcarcely perforated. The limb is ſpreading, and divided into five parts; the two upper ſegments being rather the ſmalleſt, and the lower one the largeſt of any of them.

3. STAMINA are four capillary filaments the length of the corolla, to which they are inſerted: The two upper ones are the longeſt, having ſimple antheræ.

4. PISTILLUM conſiſts of a roundiſh germen, a ſimple ſtyle the length of the ſtamina, and a ſimple, acute ſtigma.

5. PERICARPIUM. There is none. The ſeed is involved in the corolla.

6. SEMEN. The ſeed is ſingle, and roundiſh.

CHAP. CLI.

SEMPERVIVUM, HOUSE-LEEK.

OF this genus are two ſpecies which require ſome protection in winter, called,

Species. 1. Tree Houſe-Leek.
2. Canary Houſe-Leek.

Tree Houſe-Leek deſcribed. 1. Tree Houſe-Leek. The ſtalk is thick, ſmooth, fleſhy, branching, and grows to ſix or eight feet high. The leaves are ſpear-ſhaped, ſucculent, of a bright-green colour, indented on their edges, and grow in round cluſters or bunches at the ends of the branches. The flowers come out from the center of the leaves at the ends of the branches, in large pyramidical ſpikes; they are of a bright-yellow colour; they appear at different times of the year, but more eſpecially in the autumn and winter.

Varieties. There is a variety of this ſpecies with ſtriped leaves, which is in great requeſt in our Green-houſes. There is alſo a variety with white flowers.

Canary Houſe-Leek deſcribed. 2. Canary Houſe-Leek. The ſtalks are woody, thick, full of the marks of fallen leaves, and grow to about a foot and an half, or two feet high. The leaves are large, ſucculent, obtuſe and incurved at the extremities, and grow in large globular heads or balls at the tops of the ſtalks. The flower-ſtalk ariſes from the center of theſe leaves, divides into many branches, ſupports the flowers in a pyramidical form, and grows to a foot and an half high. The flowers are of a greeniſh colour, appear in June and July, and the ſeeds ripen in the autumn.

Culture. The firſt ſort is generally propagated by the cuttings; the ſecond by the ſeeds, which it produces in great plenty.

The cuttings ſhould be taken off, in any of the ſummer months, and laid in a dry place for the wounded part to ſkin over before they are planted, to prevent their rotting; which ſometimes, tho' very ſeldom, happens, if they are planted immediately, and have not too much water. The cuttings ſhould be ſet in ſome dry, warm, well-ſheltered place, and be ſhaded until they have taken root; or in pots filled with light, freſh, ſandy, or rubbiſhy earth; and the pots ſhould be ſet in the ſhade, but not under the drip of trees. They ſhould be now and then watered in the pots; but thoſe in the full ground will require no watering at all. In October the pots ſhould be removed under cover, to be protected from the froſt, and afterwards ſhould be placed among the hardieſt ſucculent plants for their winter-reſidence; whilſt thoſe abroad ſhould be hooped over, to be covered with mats in froſty weather. If this covering be multiplied ſufficiently to keep out the froſt, which is all they want to be protected from in this climate, the trees will grow to an amazing ſize; for they will be upwards of ten feet high, will ſpread their branches on every ſide, and cauſe a very ſingular and ſtriking look. The plants that are houſed ſhould not be placed among other plants that require frequent watering, for they will imbibe the moiſture, become top-heavy, and the leaves will ſoon rot and fall off; ſo that an airy glaſs-caſe, or even the protection of an hotbed-frame, will be more ſuitable to theſe plants than the ſituation in the Green-houſe among other trees.

The Variegated ſort, which is the moſt beautiful and valued, is the moſt tender, and muſt be treated accordingly.

As the ſecond ſpecies produces plenty of ſeeds, it is more ſpeedily propagated that way. Sow the ſeeds in pots filled with light, freſh earth, ſoon after they are ripe. Set the pots in ſome warm, well-ſheltered place, until there be an appearance of froſt; then remove them under ſome ſhelter, but place them abroad again in mild and open weather. In the ſpring, let their ſituation be ſuch that they may receive the morning ſun only; frequently water them in dry weather, and in a little time the plants will come up. They muſt be kept clean from weeds, and be now and then watered, ſhould the weather prove dry, though but ſparingly. When the plants are fit to remove, each ſhould be ſet in a pot filled with light, rubbiſhy earth, and their after-management ſhould be ſimilar to that of the cuttings of the preceding ſpecies.

Titles. Arboreum. 1. Tree Houſe Leek is titled, *Sempervivum caule arboreſcente lævi ramoſo.* In the *Hort. Cliff.* it is termed, *Sempervivum caule infernè nudo lævi ramoſo.* Caſpar Bauhine calls it, *Sedum majus arboreſcens, floſculis candidis*; and Cluſius, *Sedum majus legitimum.* It grows naturally in Portugal, Crete, and the Cape of Good Hope.

Canariense. 2. Canary Houſe Leek is titled, *Sempervivum caule foliorum ruderibus lacero foliis retuſis.* In the *Hort. Cliff.* it is termed, *Sempervivum caule infra folio lacero, foliis cuneiformibus: ſummis ſubrotundis.* Commeline calls it, *Sedum Canarium, foliis omnium maximis*; and Plukenet, *Sedum majus Canarium acaulon, pilis ad oras foliorum hiſpidis.* It grows naturally in the Canary Iſlands.

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C H A P. CLII.

SENECIO, GROUNDSEL.

THERE are ſome ſpecies of this genus, natives of Africa, which ſucceed very well with us under the protection of a common Green-houſe in the winter ſeaſon; and they are,

Species.

1. Stiff-leaved Shrubby African Groundſel.
2. *Ilex*-leaved Shrubby African Groundſel.
3. Succulent-leaved Shrubby African Groundſel.
4. Long-leaved Shrubby African Groundſel.
5. Spleen-Wort-leaved African Groundſel.
6. Lyrated-leaved Shrubby African Groundſel.
7. Purple African Groundſel.

Stiff-leaved Shrubby African, 1. Stiff-leaved Shrubby African Groundſel. This plant is a very beautiful ſhrub, and riſes with an upright, rigid, rough ſtem, to the height of about ſeven feet. The leaves are large, ſtiff, hairy, and rough; they are oblong, indented irregularly on their edges, and embrace the ſtalk with their baſe. The flowers terminate the branches in cluſters; they are ſmall, but radiated, of a lively-yellow colour, and numbers of them grow together. There will be a ſucceſſion of them during moſt of the ſummer months, and plenty of good ſeeds may be gathered from the plants in the autumn.

Ilex-leaved Shrubby African, 2. *Ilex*-leaved Shrubby African Groundſel. This ſhrub will grow to be about five feet high. The ſtem is woody, and ſends forth numerous, ſpreading branches, without order. The leaves are not all of the ſame figure; their edges are deeply cut, or indented; their upper ſurface is of a fine-green colour, but underneath they are of a whitiſh colour; they are of a ſtiff ſubſtance, and embrace the ſtalk with their baſe. The flowers terminate the branches in cluſters; they are radiated, of a pale-yellow colour, continue to ſhow themſelves moſt of the ſummer months, and produce good ſeeds in the autumn.

Succulent-leaved Shrubby African, 3. Succulent-leaved Shrubby African Groundſel. This plant riſes with an upright, branching ſtem, to the height of about eight feet. The leaves are of a fleſhy ſubſtance, oval, hoary, and their edges are indented. The flowers terminate the branches in large, looſe bunches; they are radiated, of a pale-yellow colour, will be in blow in July and Auguſt, but do not always bring their ſeeds to perfection with us.

Long-leaved Shrubby African, 4. Long-leaved Shrubby African Groundſel. This is a ſhrubby, branching plant, ornamented with long, narrow, naked, rough leaves. In one variety they are very hoary, in another of a fine-green colour, and they grow but thinly on the branches. The flowers, which are radiated, terminate the branches in a corymbus; and they will often ſhow themſelves in June, July, and Auguſt.

And Spleen-wort-leaved African Groundſel deſcribed. 5. Spleen-Wort-leaved African Groundſel. This is a Perennial, riſing with an herbaceous, upright, branching ſtalk, to the height of about a yard. The lower leaves will be more than half a foot long, and are ſinuated ſo deeply as to form the appearance of a pinnated leaf; the upper leaves are ſmaller, embrace the ſtalk with their baſe, and are ſo clammy that they will ſtick to the fingers on being touched. The flowers grow from the upper part of the ſtalks on long footſtalks; each footſtalk ſupports one flower only, which is large, radiated, and of a yellow colour. There will often be a ſucceſſion of them from June to the end of ſummer, and ſometimes good ſeeds from the firſt-blown flowers may be gathered in the autumn.

Lyrated-leaved Shrubby African, 6. Lyrated-leaved Shrubby African Groundſel. This plant hath a ſhrubby, branching ſtem, about four or five feet high. The leaves are lyre-ſhaped, and downy underneath. The flowers grow ſingly, on long footſtalks; they will be in blow in July and Auguſt, but have no rays to ſet them off.

and Purple African Groundſel deſcribed. 7. Purple African Groundſel. This plant will grow to about a yard high. The lower-leaves are lyre-ſhaped, rough, and clammy; thoſe that grow near the top of the plant are ſmaller, ſpear-ſhaped, and indented. The flowers of this ſort are of a purple colour; and if they had the ornamental rays peculiar to moſt flowers of this kind, they would be very valuable.

Culture. All theſe ſorts are eaſily propagated by cuttings. Plant theſe in pots filled with rich, light earth, in any of the ſummer months, and ſet them in the Green-houſe where no ſun can come at them. Leave the windows conſtantly open; and frequently ſupply them with water. They will readily take root; and as ſoon as you perceive this, remove them to ſome ſhady part of the garden, but not under the drip of trees, plunging the pots up to the rims in the common mould. Give them water as there ſhall be occaſion all ſummer, and in October remove them into the Green-houſe for their winter lodgings. In the ſpring they muſt be ſhifted into larger pots, be ſet abroad in the ſummer with other tender plants, and in October removed into the Green-houſe as before.

Theſe plants are alſo eaſily raiſed by ſeeds. Theſe muſt be ſown in the ſpring, on a moderate hotbed covered with light, rich earth. When the plants come up, you muſt give them conſtant ſupply of air and water; and here they may remain until they are four or five inches high; when each plant ſhould be taken out and potted. This being effected, they ſhould be well watered, the pots ſhould be plunged up to the rims in ſome ſhady part of the garden, and in October muſt be taken into the Green-houſe, and managed like the cuttings.

Titles. 1. Stiff-leaved Shrubby African Groundſel is titled, *Senecio corollis radiantibus, foliis ſpatulatis repandis amplexicaulibus ſcabris eroſis, caule fruticoſo hirto.* Commeline calls it, *Jacobæa Africana fruteſcens, foliis rigidis & hirſutis*; Ray, *Jacobæa Africana ramoſiſſima, foliis ſenecionis pinguis rigidis & lucentibus incanis.* It grows naturally in Æthiopia. Rigidus.

2. *Ilex*-leaved Shrubby African Groundſel is titled, *Senecio corollis radiantibus, foliis ſagittatis amplexicaulibus dentatis, caule fruticoſo.* Commeline calls it, *Jacobæa Africana fruteſcens, foliis inciſis & ſubtus cinereis.* It grows naturally at the Cape of Good Hope. Ilicifo=lius.

3. Succulent-leaved Shrubby African Groundſel is titled, *Senecio corollis radiantibus, foliis obovatis carnoſis ſubdentatis, caule fruticoſo.* In the *Hortus Cliffort.* it is termed, *Solidago foliis obverſè ovatis carnoſis crenatis, caule fruticoſo, corymbo ramoſo.* Dillenius calls it, *Doria Africana arboreſcens, foliis craſſis & ſucculentis atriplicem referentibus.* It grows naturally in Æthiopia. Halimi=folius.

4. Long-leaved Shrubby African Groundſel is titled, *Senecio corollis radiantibus, foliis linearibus ſparſis, caule fruticoſo.* Herman calls it, *Jacobæa Africana, folio capillaceo viridi*; Volkamer, *Jacobæa Africana fruticans, oblongis foliis anguſtis integris incanis*; Commeline, *Jacobæa Africana fruteſcens, lavendulæ folio latiore & anguſtiore*; Breynius, *Jacobæa Æthiopica lavendulæ folio*; and Plukenet, *Jacobæa Æthiopica, anguſtiſſimis & prelongis foliis rarius crenatis.* It grows naturally at the Cape of Good Hope. Longifo=lius.

5. Spleen-Wort-leaved African Groundſel is titled, *Senecio corollis radiantibus, petiolis amplexicaulibus, pedunculis folio triplo longioribus, foliis pinnato-ſinuatis.* Vaillant calls it, *Jacobæa Afra perennis viſcoſa lutea, aſplenii foliis.* It grows in Africa. Hastulatus.

6. Lyre-leaved Shrubby African Groundſel is titled, *Senecio corollis nudis, foliis lyratis ſubtus tomentoſis, pedunculis unifloris: ſquamis ſubulatis.* It grows naturally at the Cape of Good Hope. Virgatus.

7. Purple African Groundſel is titled, *Senecio corollis nudis, foliis lyratis hirtis: ſuperioribus lanceolatis dentatis.* Breynius calls it, *Senecio viſcoſus Æthiopicus, flore purpureo.* It is a native of Æthiopia. Purpureus.

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CHAP. CLIII.

SERIPHIUM.

Species. THIS genus conſiſts of the following ſpecies,

1. Cinereous *Seriphium*.
2. Plumoſe *Seriphium*.
3. Imbricated *Seriphium*.

Cinereous, 1. Cinereous *Seriphium*. The ſtalk is ſhrubby, branching, and grows to two or three feet high. The leaves are ſpear-ſhaped, ſmall, patent, recurved, hoary, and grow in cluſters. The flowers are produced in whorled ſpikes at the tops of the branches; they appear in July and Auguſt, but are rarely followed by ripe ſeeds in England.

Plumoſe, 2. Plumoſe *Seriphium*. The ſtalk is woody, branching, and grows to two or three feet high. The leaves are ſmall, and oval. The flowers come out from the ends of the branches in globular, plumoſe heads; they are of a white colour, and appear great part of the ſummer.

and Imbricated Seriphium deſcribed. 3. Imbricated *Seriphium*. The ſtalk is woody, and divides into ſeveral ſlender, ligneous, taper branches, and the ſhrub grows to a foot and an half, or two feet high. The leaves are imbricated, ſmall, ſlender, and of a ſilvery-white colour. The flowers come out in ſhort ſpikes or heads at the ends and ſides of the branches; they appear early in the ſummer, and frequently again in the autumn.

Culture. Theſe are raiſed by planting the cuttings, during any of the ſummer months, in beds of good, light earth, and covering them cloſe down with bell or hand glaſſes, or, for want of theſe, with mats. They muſt be duly watered; and as they grow, the covering muſt gradually be taken off. In about ſix weeks they will be fit to remove. They muſt then be planted ſeparately in pots filled ~~with~~ good, light, garden-mould, be watered, and ſet in the ſhade until they are well eſtabliſhed in their new ſituation. After this they may be removed into ſome warm, well-ſheltered part of the garden, to remain there until the end of October, or later if the ſeaſon proves favourable, and finally be taken into ſhelter with the hardier kinds of Green-houſe plants.

Titles. Cinereum. 1. The firſt ſpecies is titled, *Seriphium floribus verticillato-ſpicatis, foliis patentibus.* In the *Hort. Cliffort.* it is termed, *Artemiſia floribus ſimplicibus.* Petiver calls it, *Breynia cineroides Capenſis*; Ray, *Abrotanoides Africannm, foliis minimis argenteis reflexis, floribus in ſummis caulibus & ramulis in ſpicas oblongas*; and Plukenet, *Tamariſcus Æthiopicus, coridis folio glabro, herbæ impiæ capitulis in ſpicam ſeſſilibus*; alſo, *Frutex cinereus muſcoſus, herbæ impiæ capitulis in ſpicam ſeſſilibus.* It grows naturally in Æthiopia.

Plumosum. 2. The ſecond ſpecies is titled, *Seriphium floribus ſpicatis, foliis granulato-ovatis.* Van Royen calls it, *Stoebe, floribus ſpicatis calycibus unifloris*; Petiver, *Breynia Capenſis, capitulis albis plumoſis*; and Ray, *Abrotanoides Africanum, foliis cinereis muſcoſis, capitulis florum globoſis magnis.* It grows naturally in Æthiopia.

Fuscum. 3. The third ſpecies is titled, *Seriphium floribus capitatis, foliis imbricatis.* Breynius calls it, *Eupatorium ericoides Capitis Bonæ Spei*; Petiver, *Abrotanoides Capenſis, ericæ folio*; alſo *Eupatorioides Capenſis capitatus*; and Ray, *Abrotanoides Africanum, foliis argenteis minoribus & breviſſimis, floribus in ſpicas breves congeſtis.* It grows naturally in Æthiopia.

Claſs and order in the Linnæan Syſtem. The characters. *Seriphium* is of the claſs and order *Syngeneſia Monogamia*; and the characters are,

1. CALYX. The exterior perianthium is compoſed of five roundiſh, tomentoſe, imbricated leaves.

The interior conſiſts of five erect, awl-ſhaped, acuminated, ſmooth, ſcarioſe leaves, which are twice as long as the others, and contain one flower.

2. COROLLA is one infundibuliforme petal, ſhorter than the interior calyx, and indented in five parts at the brim.

3. STAMINA are five capillary filaments, with a cylindrical anthera.

4. PISTILLUM conſiſts of a germen ſituated above the calyx, a filiforme ſtyle, and a ſub-bifid ſtigma.

5. PERICARPIUM. There is none. The ſeed is lodged in the calyx.

6. SEMEN. The ſeed is ſingle, and oblong.

CHAP. CLIV.

SIDERITIS, IRON-WORT.

THE following ſpecies muſt be brought under protection in winter, viz.

Species.
1. Canary Iron-wort.
2. Cretan Iron-wort.
3. Syrian Iron-wort.

Canary, 1. Canary Iron-wort. The ſtalk is woody, hairy, grows to five or ſix feet high, and ſends forth ſeveral ligneous branches, which are covered with a ſoft, hairy down. The leaves are heart-ſhaped, woolly, of a yellowiſh-green colour on their upper-ſide, white underneath, and grow on long footſtalks. The flowers come out in whorled ſpikes from the ends of the branches; they are of a white colour, appear in June and July, and frequently again in the autumn, by which time the ſeeds which ſucceed the firſt-blown flowers, will be ripe.

Cretan, 2. Cretan Iron-wort. The ſtalk is woody, ſends forth ſeveral ſoft, downy branches, and grows to be three or four feet high. The leaves are broad, heart-ſhaped, oblong, of a white colour, downy on both ſides, and grow on longiſh footſtalks. The flowers come out in whorls from the ends of the branches; they are of a bad white colour; they appear in June, July, and Auguſt, and the ſeeds ripen in the autumn.

and Syrian Iron-wort deſcribed. 3. Syrian Iron-wort. The ſtalks of this plant are woody, branching, grow to about a foot and an half or two feet high, and the young branches are covered with a white down. The leaves are ſpear-ſhaped, entire, woolly, and quite white on their under-ſide. The flowers are produced in whorls from the ends of the branches; they are of a yellow colour, having ſmooth, white, downy cups; they appear in July, but the ſeeds rarely ripen in England.

Culture. Theſe ſorts may be propagated by planting the ſlips or cuttings in the common ground, in any of the ſummer months. They muſt be ſhaded, and duly watered at firſt. When they are in a good growing ſtate, they ſhould be ſet in ſeparate pots, placing them in the ſhade until the end of October, and then remove them into the Green-houſe with the hardieſt Green-houſe plants.

The two firſt ſorts are alſo raiſed by ſeeds. Theſe ſhould be ſown in pots in the autumn, ſoon after they are ripe; the pots ſhould be ſheltered in froſty weather, and in the ſpring muſt be ſet under ſome warm hedge or wall, where they may receive the morning ſun until ten of the clock. The ſeeds will then ſoon come up; and after they are fit to remove, each ſhould be ſet in a ſeparate pot, and be managed like the cuttings.

They will all grow abroad, if planted in dry rubbiſhy places; ſo that a few ſeeds may be ſown in the like ſituation, or in the crevices of old walls, where they will ſtrike root, and ſeem impregnable againſt all weather. A ſhare of the plants alſo that have been preſerved in the Green-houſe all winter, may be turned out with the mould at the roots in ſome dry warm place, to take their chance with the weather as it ſhall happen; leaving the reſt in the Green-houſe to preſerve the ſorts, in caſe thoſe plants abroad ſhould be deſtroyed.

Titles.

Canariensis. 1. Canary Iron-Wort is titled, *Sideritis fruticoſa villoſa, foliis cordato-oblongis acutis petiolatis, ſpicis verticillatis.* In the *Hortus Cliffort.* it is termed, *Stachys fruticoſa, foliis cordato-oblongis crenatis petiolatis.* Plukenet calls it, *Stachys ampliſſimis verbaſci foliis, floribus albis parvis non galeatis, ſpicâ betonicæ.* It grows naturally in the Canary Iſlands.

2. Cretan Iron-Wort is titled, *Sideritis fruticoſa tomentoſa, foliis cordatis obtuſis petiolatis, ramis divaricatis, ſpicis verticillatis.* Commeline calls it, *Stachys Canarienſis fruteſcens, verbaſci folio*; and Tournefort, *Stachys Cretica latifolia.* It grows naturally in Crete. Cretica

3. Syrian Iron-Wort is titled, *Sideritis ſuffruticoſa tomentoſo-lanata, foliis lanceolatis integerrimis, floribus verticillatis.* In the *Hortus Cliffort.* it is termed, *Cunila calycibus inermibus lanigeris*; alſo, *Stachys fruticoſa, foliis lanceolato-linearibus integerrimis ſeſſilibus.* Tournefort calls it, *Sideritis Cretica tomentoſa candidiſſima, flore luteo*; Barrelier, *Stachys lychnoides incana anguſtifolia, flore aureo*; and Caſpar Bauhine, *Stachys minor Italica*; alſo, *Piloſella Syriaca.* It grows naturally in Crete. Syriaca.

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CHAP. CLV.

SIPHONANTHUS.

WE have at preſent but one ſpecies of this genus, called *Siphonanthus.*

The plant deſcribed. The ſtem is woody, branching, and eight or ten feet high. The leaves are ſpear-ſhaped, long, whitiſh underneath, and grow alternately. The flowers are produced in kind of umbels along the ſides of the branches; they are of a yellow colour, appear in Auguſt and September, but are rarely ſucceeded by roundiſh berries, containing the ſeeds.

Culture. It is propagated by layers, which ſhould be performed on the young ſhoots in the autumn, by a ſlit at the joint, as is practiſed in layering Carnations. The ſpring after they have ſtruck good root, they muſt be taken off, planted ſeparately in pots filled with freſh, ſandy earth, and plunged into a hotbed of tanner's bark. Here they muſt be watered and ſhaded until they have taken root, then hardened by degrees to the open air, and afterwards ſet abroad in ſome warm, well-ſheltered place. In the autumn they muſt be taken into ſhelter with the firſt claſs of plants, and in the winter muſt be ſtationed in the warmeſt part of a good Green-houſe.

It is alſo raiſed by ſeeds. Theſe ſhould be ſown in pots filled with light earth, and plunged into a temperate hotbed. When the plants are fit to remove, they muſt be potted ſeparately, and brought forward with a hotbed, as before; obſerving to ſhade and water them until they have taken root. They muſt be then hardened to the open air, but need not be ſet abroad this ſummer; in the autumn, however, they ſhould be taken into a temperate ſtove for their winter reſidence. The ſummer following they muſt be ſet abroad, like the layers; and by the autumn, having by that time grown to be ſtrong plants, may be removed into the Green-houſe; obſerving, if any plant appears weakly, or has made but little progreſs, to cheriſh it for another winter in a temperate ſtove.

Titles. Indica. This ſpecies is titled, *Siphonanthus ſalicis folio, flore flaveſcente.* It grows naturally in India.

Claſs and order in the Linnæan Syſtem. *Siphonanthus* is of the claſs and order *Tetrandria Monogynia*; and the characters are,

The characters.

1. CALYX is a broad, monophyllous, permanent, perianthium, divided into five parts.

2. COROLLA is one infundibuliforme petal; the tube is filiforme, very narrow, and many times longer than the calyx; the limb is ſmaller than the calyx, and divided into five ſpreading ſegments.

3. STAMINA are four filaments longer than the limb of the corolla, having oblong, triangular antheræ.

4. PISTILLUM conſiſts of a very ſhort quadrifid germen, a filiforme ſtyle the length of the ſtamina, and a ſimple ſtigma.

5. PERICARPIUM conſiſts of four roundiſh berries within the ſpreading calyx.

6. SEMINA. The ſeeds are ſingle, and roundiſh.

CHAP. CLVI.

SMILAX, ROUGH BINDWEED.

THE Laurel-leaved Rough Bindweed, before treated of among the Climbers, is there with caution recommended to be planted abroad in the open air; a reſerve therefore of this ſpecies ſhould always be made in the Green-houſe, to keep up a ſtock, in caſe thoſe abroad ſhould be deſtroyed by bad weather; nay, it ſhould be conſidered in no other light than as a Green-houſe plant, unleſs there be for it a naturally dry, warm, well-ſheltered place: To this ſhall be added,

Species. 1. The Chineſe Rough Bindweed, or China Root.

2. Baſtard China *Smilax*.

Chineſe Rough Bindweed deſcribed. 1. Chineſe Rough Bindweed, or China Root. The root is thick, fleſhy, ſpreading, and ſtrikes deep into the ground. The ſtalks are very ſtrong, taper, prickly, and ariſe by the aſſiſtance of claſpers to near twenty feet high. The leaves are oval, heart-ſhaped, free from ſpines, of a thick ſubſtance, and have fine longitudinal veins. The flowers come out in cloſe branches from the wings of the ſtalks; they are ſmall, and of little figure; but the females are ſucceeded by round red berries, which have a pretty effect.

Varieties. There are many varieties of this ſpecies, many of which have titles in the works of old Botaniſts, as diſtinct ſpecies.

Baſtard Chineſe Smilax deſcribed. 2. Baſtard Chineſe *Smilax*. The root of this ſpecies is very large, thick, and fleſhy. The ſtalks are ligneous, taper, free from ſpines; poſſeſſed of claſpers, by which they lay hold on every thing that is near them; and will rear their heads above trees that are twenty feet high. The leaves are of different figures: Thoſe on the ſtalks are for the moſt part cordated; thoſe on the branches are, ſome oval, ſome oblong and acute-pointed, and all of them are free from ſpines. The flowers are produced from the wings of the ſtalks in cluſters, growing on long footſtalks; and the fruit that ſucceeds them is a red berry. There are ſeveral varieties of this ſpecies, but one in particular with black fruit is worthy of notice.

Culture. They are all propagated by dividing the roots, or layering the branches, the beſt time for which is the beginning of April. If the roots are parted, each ſhould be ſet in a ſeparate pot; and if they are ſet forward in growth by a moderate warmth, it will be the better. They muſt however be ſoon hardened to the air, and ſet abroad in almoſt any place for the ſummer; and in the end of October, or later if the weather will permit, ſhould be taken into the houſe with the hardieſt Green-houſe plants, and treated like them.

If the young ſhoots are laid in the ground in the ſpring, they will ſoon ſtrike good root; and in the April following each ſhould be taken off, planted in a ſeparate pot, and managed like the former.

They are alſo raiſed by ſeeds. Theſe will be two years before they come up; ſo that the beſt way will be to ſow them in tubs, filled with light, rich earth: All ſummer they may be ſet in a ſhady place; and the winter following they ſhould be put under a warm wall, full upon the ſun. In February the tub ſhould be removed into the Greenhouſe, or placed under ſome ſhelter. Here they ſhould be frequently watered, and by the beginning of April ſome plants will come up; tho' the greateſt part will probably continue until the following ſummer. When all danger from froſty weather is over, the boxes ſhould be ſet abroad in a ſhady well-ſheltered place, be kept conſtantly weeded, and frequently watered during the ſummer; and in the autumn muſt be removed into the Green-houſe for their winter lodgings. In the ſpring your whole crop may be expected to ſhew itſelf; the plants may remain in the boxes, with the ſimilar management of the preceding year; and then each ſhould be ſet in a ſeparate pot, and treated like the others.

1. Chineſe Rough Bindweed, or China Root, is titled, *Smilax caule aculeato teretiuſculo, foliis inermibus ovato-cordatis quinquenerviis.* In the *Mat. Med.* it is termed, *Smilax caule aculeato, foliis orbiculato-ovatis inermibus quinquenerviis.* Brown calls it, *Smilax ſarmento tereti infernè aculeato, foliis ſubrotundo-cordatis trinerviis, petiolis claviculâ unâ alterâve*; Kæmpfer, *Smilax minus ſpinoſa, fructu rubicundo, radice virtuoſâ Chinæ dicta ſ. Sankiva*; Caſpar Bauhine, *China radix*; Plumier, *China Michuacanenſis ſ. ſmilax aſpera minor*; and Plukenet, *Fruticulus convolvulaceus ſpinoſus Sinicus, floribus parvis umbellatis.* It grows naturally in China and Japan. Titles. China.

2. Baſtard Chineſe *Smilax* is titled, *Smilax caule inermi tereti, foliis inermibus: caulinis cordatis, rameis ovato-oblongis quinquenerviis.* In the *Hortus Cliffort.* it is termed, *Smilax caule tereti inermi, foliis cordato-ovatis acutis inermibus, petiolis bidentatis.* Gronovius calls it, *Smilax caule tereti inermi, foliis inermibus: caulinis cordatis, ramorum lanceolatis, pedunculis longiſſimis*; Brown, *Smilax aſpera, foliis trinerviis oblongis, petiolis biclaviculatis*; Plukenet, *Smilax Virginiana, ſpinis innocuis armata, latis canellæ foliis, radice arundinaceâ craſſâ nodoſâ & carnoſâ*; Sloane, *Smilax aſpera, fructu nigro, radice nodoſâ magnâ lævi farinaceâ*; Plumier, *Smilax aſpera nodoſa, radice rubrâ majore*; and Caſpar Bauhine, *China ſpuria nodoſa.* It grows naturally in Virginia. Pſeudo-China.

CHAP. CLVII.

SOLANDRA.

THERE is only one ſpecies of this genus, called *Solandra*.

The plant deſcribed.

The root is perennial. The ſtalk is ſhort, downy, and procumbent. The leaves are wedge-ſhaped, ſomewhat oval, hoary, cut or indented on their edges, and grow alternately on footſtalks. The flowers come out in umbels from the ſides of the ſtalks; they are of a white colour, having a dark purple-coloured receptacle; and the females are followed by oblong capſules, containing the ſeeds.

Culture.

This is propagated by parting of the roots in the ſpring or autumn; they muſt be planted ſeparately in pots, filled with light, freſh earth, and muſt be watered and ſhaded until they have taken root. In ſummer they may be ſet abroad in ſome warm, well-ſheltered place, and in winter muſt be houſed with other exotics.

Titles.

Capensis.

There being no other ſpecies of this genus, it is named ſimply, *Solandra*. Boerhaave calls it, *Ricinocarpos Afra*; and Herman, *Mercurialis procumbens dicoccos Africana, foliis violæ tricoloris*. It grows naturally at the Cape of Good Hope.

Claſs and order in the Linnæan Syſtem. The characters.

Solandra is of the claſs and order *Monoecia Polyandria*; and the characters are,

1. Calx. The umbel is ſimple, and compoſed of four pedunculated male flowers in the periphery, and a ſeſſile female flower in the center.

The involucrum is compoſed of four ſpear-ſhaped leaves, the length of the umbel.

There is no perianthium.

2. Corolla of the males conſiſts of five oval, equal petals: That of the females conſiſts of ſix oval, equal petals.

3. Stamina of the males are five awl-ſhaped filaments the length of the petals, having oval, incumbent antheræ.

4. Pistillum in the female conſiſts of an oblong, compreſſed, truncated germen, and two awl-ſhaped, recurved ſtyles, with acute ſtigmas.

5. Pericarpium is an oblong, dicoccous capſule.

6. Semina. The ſeeds are ſingle.

CHAP. CLVIII.

SOLANUM, NIGHT-SHADE.

THE Green-houſe ſpecies of *Solanum* (which includes many varieties) are as follow:

Species.

1. *Amomum Plinii*, or Baſtard *Capſicum*.
2. Mullein-leaved Night-ſhade.
3. Two-leaved Night ſhade.
4. Oak-leaved Night-ſhade.
5. Radicant Night-ſhade.
6. Boniares Night-ſhade.
7. Pimpinel-leaved Night-ſhade.
8. Peruvian Night-ſhade.
9. Campeachy Night-ſhade.
10. Paniculated Night-ſhade.
11. Indian Night-ſhade.
12. African Jagged-leaved Night-ſhade, or *Pomum Amoris*.
13. Paleſtine Night-ſhade.

Amomum Plinii deſcribed.

1. *Amomum Plinii* is a well known plant, and is chiefly valued on account of its fruit, which appear like ſo many ripe cherries of a beautiful red colour, during the winter ſeaſon; tho' there is of it the Yellow-fruited ſort, which, tho' not ſo beautiful, cauſes variety, and forms an agreeable mixture with other plants. They are ſhrubby plants, will grow to about four feet high, and their ſtalks and branches are free from thorns, which a great number of ſpecies of this genus are poſſeſſed of. The leaves are ſpear-ſhaped, entire, and turn backward. The flowers for the moſt part grow ſingly from the ſides of the branches, tho' ſometimes they are produced in ſmall umbels; they ſit cloſe without any footſtalks, are of a white colour, will be in blow from June to the end of autumn, and their flowers are ſucceeded by the aforeſaid beautiful kind of berries, about the ſize of cherries, which look very beautiful among other plants in the Green-houſe all winter. This ſpecies is uſually called *Amomum Plinii*, tho' it ſometimes goes by the names of Love Apple, Baſtard *Capſicum*, or the like, according to the fancies or taſtes of different people.

Mullein-leaved Night-ſhade deſcribed.

2. Mullein-leaved Night-ſhade. This ſpecies hath a woody, branching ſtalk, free from thorns. The leaves are oval, downy, their edges are entire, and they much reſemble thoſe of Mullein. The flowers are produced in compound umbels;

they are ſmall, and are ſucceeded by ſmall, roundiſh fruit.

Two-leaved,

3. Two-leaved Night-ſhade. This ſpecies hath a ſhrubby, unarmed ſtalk, which naturally divides into a few branches. The leaves are of an oval, ſpear-ſhaped figure, and grow two together, like twins; the one being much ſmaller than the other. The flowers are produced in cymes, and are ſucceeded by a kind of twin or cleft fruit.

Oak-leaved,

4. Oak-leaved Night-ſhade. This is a perennial plant. The ſtalks are herbaceous, angular, upright, and rough, but have no thorns. The leaves are pinnatifid, oblong, venoſe, ſmooth on their upper ſurface, and rough beneath. The flowers are produced in cymoſe bunches; their colour is a fine violet, having two green ſpots at the bottom of each lobe; their antheræ are yellow, and they are ſucceeded by oval berries.

Procumbent Peruvian,

5. Procumbent Peruvian Night-ſhade. This is a perennial plant. The ſtalks are herbaceous, taper, ſmooth, unarmed with thorns, and lie flat on the ground, where they ſtrike root. The leaves are pinnatifid, and the flowers grow in cymoſe bunches.

Boniares,

6. Boniares Night-ſhade. This is a large ſhrub. It will grow to be ten or twelve feet high. The ſtem is of a purpliſh colour, and near the top ſends forth ſeveral erect branches. The leaves are large, wedge-ſhaped, ſinuated, and bend backward. The flowers terminate the branches in umbels; their colour is white; they are moderately large, and are ſucceeded by fine globular yellow berries.

Pimpinel-leaved,

7. Pimpinel-leaved Night-ſhade. The ſtalk of this ſpecies is herbaceous, and has no thorns. The leaves are pinnatifid, and entire. The flowers grow in ſimple cluſters.

Peruvian,

8. Peruvian Night-ſhade. This is a perennial. The ſtalks are herbaceous, and divide into a few ſpreading branches. The leaves are pinnated, jagged, and downy. The flowers grow in cluſters; they are large, of a fine yellow colour, and when in blow make a good appearance.

Campeachy,

9. Campeachy Night-ſhade. The ſtalks of this ſpecies are herbaceous, and armed with ſharp thorns. The leaves are heart-ſhaped, ſinuated, a little downy, and on both ſides have a multitude of briſtly prickles, that diverge from each other in a ſtar-like manner. The flowers are moderately large, and remarkable for having very ſharp, prickly cups.

Paniculated,

10. Paniculated Night-ſhade. The ſtalks of this ſpecies are white, downy, and guarded by a few naked, ſharp, ſtraight thorns. The leaves are heart-ſhaped, broad, downy, ſmooth on their upper ſurface, and poſſeſſed of no ſpines. The flowers terminate the ſtalks in panicles, having downy footſtalks.

Indian,

11. Indian Night-ſhade. This ſpecies hath a ſhrubby, branching ſtalk, about three feet high, and armed with ſtrong, ſharp, yellowiſh thorns. The leaves are wedge-ſhaped, woolly on both ſides, angular, a little hairy, entire, and guarded on both ſides by many ſtraight ſpines on the mid-rib. The flowers grow in longiſh bunches from the ſides of the branches; they are blue, and much reſemble thoſe of Borage; they are ſucceeded by large gold-coloured fruit, as big as cherries, which make a fine appearance in winter, when they are ripe.

and African Jagged-leaved Night-ſhade deſcribed.

12. African Jagged-leaved Night-ſhade. This ſpecies hath a ſhrubby, thick ſtalk, about a yard high, branching, and beſet with many ſtrong, ſhort, yellow, crooked thorns. The leaves are oval, and ſo jagged, or deeply cut into ſeveral regular, oppoſite, obtuſe, ſegments, as to form the appearance of a winged leaf; they are poſſeſſed of a few thorns, and are downy on their under-ſide. The flowers grow in bunches from the ſides of the branches; they are large, blue, and very much reſemble thoſe of Borage; they will be in blow in July; and the fruit is round and compreſſed, of a fine yellow colour, as large as a ſmall apple, and makes a ſtriking appearance in the winter, when ripe.

Paleſtine Night-ſhade deſcribed,

13. Paleſtine Night-ſhade. This ſpecies hath a thick, downy, ſhrubby ſtalk, armed with ſhort, thick, ſtraight, yellowiſh, downy thorns. The leaves are oval, thick, downy, obtuſe, prickly, ribbed, and bend backward. The flowers grow on footſtalks from the ſides of the branches; they are of a bluiſh-purple colour, and are ſucceeded by round fruit.

Culture.

The propagation of all theſe ſorts is beſt effected from the ſeeds; and as they riſe ſo eaſily, and ripen ſo freely with us, any other method is not worth attempting, except for the perennial ſorts, which may be encreaſed by ſlips from the roots; and the fifth ſort ſtrikes root from the ſides of the branches that lie on the ground, which being taken up, become diſtinct plants.

Sow the ſeeds, therefore, on a moderate hotbed in the ſpring, covered with rich, light earth. When the plants come up, water them frequently, tho' but little at a time; and let them have as much air as the weather will permit. From this hotbed the plants muſt be ſet, each in a ſmall pot, which muſt be again plunged into a ſecond hotbed. The plants muſt be watered at this time, and ſhaded until they have taken root, and ſhould by degrees be inured to the open air. In June, being properly hardened, they may be ſet abroad with other tender plants. In the autumn, they muſt be removed into the Green-houſe. The eleventh and twelfth ſorts ſhould be taken in before the early colds advance; for they are very tender, and muſt have the warmeſt part of the Green-houſe allotted them; or indeed, if there be the conveniency of a ſtove, they will do better with a moderate warmth. The others flouriſh well in a good Green-houſe; and the firſt ſort is hardy enough to bear the open air, in ſome ſituations, thro' our mild winters. It would be neceſſary to ſhift theſe plants about the beginning of May every year, to pare off the fibres that are againſt the ſides of the pots, and give them the advantage of ſome freſh, rich mould: And this, together, with affording them ſufficient watering, will cauſe them to be more productive of fruit, in which the great excellence of theſe plants chiefly conſiſts.

Titles.

Pſeudo-Capſicum.

1. *Amomum Plinii*, or Baſtard *Capſicum*, is titled, *Solanum caule inermi fruticoſo, foliis lanceolatis repandis, umbellis ſeſſilibus.* In the *Hortus Cliffort.* it is termed, *Solanum caule inermi fruticoſo, foliis ovato-lanceolatis integris, floribus ſolitariis.* Caſpar Bauhine calls it, *Solanum fruticoſum bacciferum*; Dodonæus, *Pſeudo-capſicum.* It grows naturally in Madeira.

Verbasci-folium.

2. Mullein-leaved Night-ſhade is titled, *Solanum caule inermi fruticoſo, foliis ovatis tomentoſis integerrimis, umbellis compoſitis.* Plumier calls it, *Solanum arboreſcens, verbaſci folio*; Plukenet, *Solanum maximè tomentoſum, ſpinis carens,*

carens, Virginianum. It grows naturally in America.

Diphyl-lum. 3. Two-leaved Night-ſhade is titled, *Solanum caule inermi fruticoſo, foliis geminis: altero minore, floribus cymoſis.* In the *Hortus Cliffort.* it is termed, *Solanum caulè inermi perenni: foliis ovato-lanceolatis geminis: altero minimo.* Plukenet calls it, *Solanum Americanum ſtrychnodendro accedens, fructu medio quaſi fiſſo.* It grows naturally in America.

Querci-folium. 4. Oak-leaved Night-ſhade is titled, *Solanum caule inermi herbaceo angulato flexuoſo ſcabro, foliis pinnatifidis, racemis cymoſis.* Fewill calls it, *Solanum foliis quernis.* It grows naturally in Peru.

Radicans 5. Radicant Night-ſhade is titled, *Solanum caule inermi herbaceo lævi teretiuſculo proſtrato radicante, foliis pinnatifidis, racemis cymoſis.* It is a native of Peru.

Bonari-ense. 6. Boniares Night-ſhade is titled, *Solanum caule ſubfruteſcente ſubinermi, foliis cuneiformibus ſinuato-repandis.* Dillenius calls it, *Solanum Bonarienſe arboreſcens, papas floribus*; Plumier, *Solanum arboreſcens, foliis angulatis, fructu aureo.* It grows naturally at Boniares.

Pimpinelli-folium. 7. Pimpinel-leaved Night-ſhade is titled, *Solanum caule inermi herbaceo, foliis pinnatis integerrimis, racemis ſimplicibus.* It is a native of Peru.

Peruvia-num. 8. Peruvian Night-ſhade is titled, *Solanum caule inermi herbaceo, foliis pinnatis tomentoſis inciſis, racemis bipartitis folioſis, baccis ſubpiloſis.* Fewill calls it, *Lycoperſicon pimpinellæ folio.* It grows naturally in Peru.

Campe-chiense. 9. Campeachy Night-ſhade is titled, *Solanum caule aculeato, herbaceo hirto, foliis cordatis ſinuatis ſubtomentoſis, calycibus aculeatiſſimis.* Dillenius calls it, *Solanum Campechienſe, calycibus echinatis.* It grows near the Bay of Campeachy.

10. Paniculated Night-ſhade is titled, *Solanum caule petioliſque aculeatis, foliis ſinuato-angulatis ſupra glabris, floribus paniculatis.* Piſo calls it, *Jurepeba.* It is a native of Braſil. Panicu-latum.

11. Indian Night-ſhade is titled, *Solanum caule aculeato fruticoſo, foliis cuneiformibus angulatis ſubvilloſis integerrimis, aculeis utrinque rectis.* In the *Hortus Cliffort.* it is termed, *Solanum caule aculeato fruticoſo, foliis ovatis ſinuatis integerrimis: ſpinis utrinque erectis.* Plukenet calls it, *Solanum Americanum perenne ſubincanum, fructu pyriformi longiore, ſpinis plurimis armatum.* It grows naturally in both the Indies. Indicum.

12. African Jagged-leaved Night-ſhade, or Sodomæum. *Pomum Amoris,* is titled, *Solanum caule aculeato fruticoſo, foliis obovatis pinnatifido-ſinuatis obtuſis ſparſè aculeatis nudis, calycibus aculeatis.* In the *Flora Zeylanica* it is termed, *Solanum caule aculeis recurvis, foliis ſinuatis ſubtus tomentoſis undiquè aculeatis, pedunculis aculeatis.* Herman calls it, *Solanum pomiferum fruteſcens Africanum ſpinoſum nigricans, boraginis flore, foliis profundè laciniatis*; Plukenet, *Solanum ſpinoſum, profundè laciniatis foliis ſubtus lanuginoſis, Maderaſpatanum.* It grows naturally in Africa.

15 Paleſtine Night-ſhade is titled, *Solanum caule aculeato fruticoſo, aculeis tomentoſis foliiſquè obliquè ovatis repandis.* Van Royen calls it, *Solanum caule aculeato fruticoſo, foliis repandis, calycibus aculeatis*; and Caſpar Bauhine, *Solanum ſpinoſum, fructu rotundo.* It grows naturally in Paleſtine. Sanctum.

CHAP. CLIX.

STÆHELINA.

THE ſpecies of this genus which claims admittance into this place, is commonly called Golden *Stæhelina.*

The plant deſcribed. This is a branching ſhrub, about a yard high. The leaves are long, narrow, downy, and but ſparingly beſtowed on the branches. The flowers come out from the ends of the branches in ſingle heads; the cups are cylindrical, and the ſcales are ſpear-ſhaped, membranaceous, and reflexed at the points; they are moderately large, and of a golden yellow colour; they appear great part of the ſummer, and often in winter; and the ſeeds which follow the ſummer flowers frequently ripen in the autumn.

Culture. This is propagated by planting the ſlips or cuttings in any of the ſummer months. The cuttings ſhould be ſet ſingly in pots filled with good garden mould; and the pots ſhould be plunged up to the rims in a ſhady part of the garden, but not under the drip of trees. They ſhould be well watered; and this ſhould be repeated every day until they have taken root, if dry weather ſhould happen. When they are in a good growing ſtate, they need not be watered oftener than twice a week. In October they ſhould be removed into the Green-houſe, and ſet where they can have a free admiſſion of air in winter; becauſe if they are cloſely ſurrounded with other trees in ſome warm part of the Green-houſe, their tender ſhoots are liable to rot. In the ſpring they muſt be ſet abroad with other plants from the ſame country, from time to time be ſhifted into larger pots, and have ſimilar treatment with the like kind of exotics.

They are alſo raiſed by ſeeds. Theſe ſhould be ſown on a ſlight hotbed in the ſpring; and when the plants are fit to remove, each ſhould be ſet in a ſeparate pot, and managed like the cuttings.

This ſpecies is titled, *Stæhelina foliis tomentoſis, ſquamis calycinis lanceolatis apice membranaceis reflexis.* Van Royen calls it, *Gnaphalium foliis linearibus, floribus terminalibus, calycibus cylindriacis: ſquamis reflexis*; and Plukenet, *Jacea Æthiopica, Stæchados citrinæ majoribus tomentoſis foliis, capitulorum ſpinis & ſquamulis ex aureo colore nitente.* It grows naturally in Æthiopia. Titles. Gnapha-loides.

CHAP. CLX.

STOEBE, BASTARD ETHIOPIAN *ELICHRYSUM.*

WE have at preſent only one ſpecies of this genus, called Baſtard Æthiopian *Elichryſum.*

The plant deſcribed. The ſtalks are ligneous, ſend out ſeveral branches from the ſides, and grow to be three feet high. The leaves are ſhort, narrow, and like thoſe of Heath; but they are for the moſt part hooked, hoary, and come out without order from every ſide of the branches. The flowers are produced in ſingle heads at the ends of the branches; they are of a yellow colour, appear in Auguſt and September, but are rarely ſucceeded by ſeeds in England.

Culture. This is eaſily propagated by planting the ſlips or cuttings in any of the ſummer months. They ſhould be ſet in pots filled with good garden mould, and placed in ſome ſhady part of the Green-houſe, where they ſhould be duly ſupplied with water; and when they have commenced a growing ſtate, ſhould be brought gradually near the windows, to enjoy the benefit of the freſh air, which will prevent their drawing weak, and becoming bad-coloured. When they have ſtood here a week or ten days, they may be ſet abroad in ſome warm, well-ſheltered part of the garden, and in the end of autumn be taken into the Green-houſe with other exotics, and managed accordingly.

Titles. There being no other ſpecies belonging to this genus, it is named ſimply, *Stoebe.* Tournefort calls it, *Conyza Africana fruteſcens, foliis ericæ hamatis & incanis*; and Vaillant, *Helichryſoides juniperi creberrimis aduncis foliis, floribus in ramulorum cymis.* It grows naturally in Æthiopia.

Æthiopica.

Claſs and order in the Linnæan Syſtem. The characters. *Stoebe* is of the claſs and order *Syngeneſia Polygamia Segregata*; and the characters are,

1. Calyx. The common calyx is roundiſh and imbricated, the ſcales being awl-ſhaped, permanent, and on every ſide ſurrounding the general receptacle.

The perianthium conſiſts of five narrow, acute, equal, erect leaves; is placed ſingly within each ſcale of the common calyx; and contains one flower.

2. Corolla is one infundibuliforme petal, having a ſpreading limb divided into five parts.

3. Stamina are five ſhort capillary filaments, with a cylindrical anthera indented in five parts.

4. Pistillum conſiſts of an oblong germen, a filiforme ſtyle the length of the ſtamina, and an acute, bifid ſtigma.

5. Pericarpium. There is none.

6. Semen. The ſeed is ſingle, oblong, and crowned with long feathery down.

The receptacle is naked.

* * *

CHAP. CLXI.

STRUMPFIA.

THERE is only one ſpecies of this genus, called *Strumpfia.*

The plant deſcribed. The ſtalk is thick, woody, ſmooth, branching, and two feet high. The leaves are narrow, acute-pointed, and of a dark green colour. The flowers come out from the ends and ſides of the branches near the extremity of the ſhoots; they are of a white colour, appear in July and Auguſt, and are ſucceeded by roundiſh berries, each containing one ſeed.

Culture. This is propagated by planting the cuttings, during any of the ſummer months, in beds of light, ſandy earth, covering them down cloſe with bell hand-glaſſes or mats. As they ſhew ſigns of growth, the glaſſes muſt be raiſed by degrees, and then finally taken away. In about ſix weeks the plants will be fit to remove; they muſt be then potted ſeparately, and ſet in ſome warm part of the garden; and in the autumn muſt be taken into a very good Green-houſe with the moſt tender kinds of plants belonging to that claſs. The warmeſt part of the houſe muſt be aſſigned them, and they muſt not be covered or overborne with other plants, which will cauſe them to rot; and if the houſe is not a good one, it will be beſt to ſet them in a glaſs caſe or temperate ſtove, if there are thoſe conveniences.

Titles. There being no other ſpecies of this genus, it is named ſimply, *Strumpfia.* Sloane calls it, *Thymelæa humilior, foliis acutis atro-virentibus*; and Plumier, *Thymelæa frutescens, roſmarini folio, flore albo.* It grows naturally in the warm parts of America.

Mariti-ma.

Claſs and order in the Linnæan Syſtem. The characters. *Strumpfia* is of the claſs and order *Syngeneſia Monogamia*; and the characters are,

1. Calyx is a ſmall, monophyllous, permanent perianthium, placed upon the germen, and indented in five parts at the top.

2. Corolla conſiſts of five oblong, obtuſe, patent petals.

3. Stamina conſiſt of no filaments, but five antheræ, which coaleſce into an oval body.

4. Pistillum conſiſts of a roundiſh germen ſituated below the calyx; an awl-ſhaped, erect ſtyle ſomewhat longer than the ſtamina; and a ſimple, obtuſe ſtigma.

5. Pericarpium is a roundiſh berry crowned with the calyx, and containing one cell.

6. Semen. The ſeed is ſingle, and nearly round.

CHAP. CLXII.

TANACETUM, TANSEY.

THE Green-houſe ſpecies of this genus are,

Species.

1. Sampire-leaved Tanſey.
2. Shrubby Æthiopian Tanſey.
3. Tree Tanſey.

Sampire-leaved,

1. Sampire-leaved Tanſey. The ſtalk is round, ligneous, ſmooth, upright, firm, branching, and five or ſix feet high. The leaves are ſingularly pinnated; the pinnæ are long, narrow, undivided, conſiderably diſtant from each other, thick in ſubſtance, and of a fine green colour. The flowers, ſingly, are very ſmall; but they come out in large, compound, corymbous bunches from the ends of the branches; they are of a bright yellow colour, appear great part of the ſummer, and frequently the winter; and ſometimes the ſeeds that ſucceed the early ſummer flowers will be ripe in the autumn.

Shrubby Æthiopian,

2. Shrubby Æthiopian Tanſey. The ſtalk is woody, branching, and four or five feet high. The leaves are pinnated, and compoſed of many narrow acute parts, ſome of which are entire, and others divided into ſtill narrower ſegments. The flowers come out from the ends of the branches in roundiſh bunches; they are moderately large, and of a bright yellow colour; begin their appearance the early part of the ſummer, and continue the ſucceſſion until the end of autumn, about which time good ſeeds from the firſt-blown flowers are ſometimes (tho' but rarely) gathered.

and Tree Tanſey deſcribed.

3. Tree Tanſey. The ſtalk is upright, woody, branching, firm, and eight or ten feet high. The leaves are pinnatifid, and the ſegments are ſpear-ſhaped, obtuſe, and entire. The flowers come out in ſmall roundiſh bunches from the ends of the branches; they are of a ſulphur colour, appear in May or June, frequently continue in ſucceſſion all ſummer, and ſometimes (tho' but rarely) the ſeeds ripen in the autumn.

Culture.

All theſe plants are eaſily raiſed by planting the cuttings in any of the ſummer months; they may be ſet in a ſhady border, and will grow if duly watered; but they more readily take if they are planted in pots, and ſet in the Green-houſe in ſome ſhady part of it, the windows being open. When they are in a growing ſtate, they muſt be removed from the Green-houſe into the open air, or they will ſoon draw weak, and be ſpoiled. Their ſituation abroad ſhould be a warm, well-ſheltered, ſhady place; and here they may ſtand until the end of October, and be then removed into the Green-houſe with other hardy plants; obſerving to let them have plenty of free air in winter, otherwiſe their young ſhoots are apt to become mouldy, and rot.

They may be alſo raiſed by ſeeds. Theſe ſhould be ſown in the ſpring on a hotbed; and when the plants are about four inches high, each ſhould be ſet in a ſeparate pot. The pots ſhould be then plunged up to the rims in a ſecond hotbed, and the plants ſhould be duly watered and ſhaded until they have taken root; after that they ſhould be inured to the open air, and when they are ſufficiently hardened, ſhould be ſet abroad like the cuttings, and managed accordingly.

Titles.

1. Sampire-leaved Tanſey is titled, *Tanacetum foliis pinnatis: pinnis linearibus remotis integerrimis.* Van Royen calls it, *Santolina corymbo compoſito terminali, foliis linearibus dentatis: dentibus longitudine folii*; Burman, *Coma aurea foliis multifidis glaucis, floſculis muſcoſis*; Commeline, *Elichryſum Africanum fruteſcens, foliis crithmi marini*; and Petiver, *Ageratum Capenſe, crithmi folio, capitulis parvis.* It grows naturally at the Cape of Good Hope.

Crithmi-folium.

2. Shrubby Æthiopian Tanſey is titled, *Tanacetum foliis pinnato-multifidis: laciniis linearibus ſubdiviſis acutis, caule ſuffruticoſo.* Plukenet calls it, *Millefolium camphoratum aureum Monomotapenſe*; and Commeline, *Abrotanum Africanum fruticans multiflorum, foliis tanaceti decuplo minoribus.* It grows naturally in Æthiopia.

Suffruti-cosum.

3. Tree Tanſey is titled, *Tanacetum foliis pinnatifidis: laciniis lanceolatis obtuſiuſculis integerrimis.* Van Royen calls it, *Tanacetum foliis pinnatis integerrimis*; and Commeline, *Tanacetum Africanum arboreſcens, foliis lavendulæ multifido folio.* It grows naturally in Æthiopia.

Frutescens.

C H A P. CLXIII.

TARCHONANTHUS, SHRUBBY AFRICAN FLEABANE.

AT preſent we have but one ſpecies belonging to this genus, called Shrubby African Fleabane.

The plant deſcribed.

The ſtalk is woody, upright, ſends out many branches near the top, and grows to be ten or twelve feet high. The leaves are oval, oblong, downy, white on their under-ſides, and when bruiſed emit the ſtrong ſmell of Roſemary. The flowers are produced in ſpikes from the ends of the branches; they are of a purple or violet colour, appear in September, and continue in ſucceſſion many months, but are rarely ſucceeded by ſeeds in England.

Culture.

This is eaſily propagated by planting the cuttings in any of the ſummer months. They may be either ſet in pots, and placed in a ſhady part of the Green-houſe, or they may be ſet in beds in the full ground, to be hooped and ſhaded at firſt. In either caſe, they will grow as readily as Sage or ſlips of Roſemary; and when they have made ſome ſhoots, they muſt be gradually brought nearer the windows, if placed in the houſe; or the mats muſt be gradually taken off, if planted in the full ground. After this they muſt be potted ſeparately, and ſet in a ſhady place until they have taken poſſeſſion of their new ſituation, where they may be ſtationed full upon the ſun, to remain there until the end of autumn, and then be taken into the Green-houſe with the more hardy kinds of exoticks. Their ſituation here ſhould be where they can have as much freſh air as poſſible; the watering ſhould be very frequent even in winter; but in ſummer, when they are ſet out, they will require to be watered every other evening, if the weather is dry: And this, together with ſhifting greeniſh colour on them from time to time into larger pots as they encreaſe in ſize, is all the trouble they will require.

Titles.

Camphoratus,

There being no other ſpecies of this genus, it is named ſimply, *Tarchonanthus.* Herman calls it, *Elychryſo affinis arbor Africana, flore purpureo-violaceo, folio ſalviæ, odore roſmarini*; and Tournefort, *Conyza Africana fruteſcens, foliis ſalviæ, odore camphoræ.* It grows naturally in Æthiopia.

Claſs and order in the Linnæan Syſtem. The characters.

Tarchonanthus is of the claſs and order *Syngeneſia Polygamia Æqualis*; and the characters are,

1. CALYX. The common calyx is turbinated, permanent, monophyllous, and cut into about ſeven acute ſegments, which are ſhorter than the corolla, and coloured on their inſide.

2. COROLLA. The compound flower is uniform. The florets are numerous, equal, and each has one funnel-ſhaped petal indented in five parts at the top.

3. STAMINA are five very ſhort capillary filaments, having a cylindrical, tubular anthera the length of the petal.

4. PISTILLUM conſiſts of an oblong germen, a ſtyle double the length of the flowers, and two gaping ſtigmas.

5. PERICARPIUM. There is none.

6. SEMEN. The ſeed is ſingle, oblong, and every where covered with hairy down.

The receptacle is ſmall and hairy, the hairs being the length of the calyx.

C H A P. CLXIV.

T E T R A G O N I A.

THERE are at preſent only two ſpecies of this genus, called,

Species.

1. Shrubby *Tetragonia.*
2. Herbaceous *Tetragonia.*

Shrubby

1. Shrubby *Tetragonia.* The ſtalks are ligneous, but tender and ſucculent when young, of a greyiſh colour, ſpotted, divide into numerous branches, grow to be four or five feet long, and, unleſs ſupported, lie on the ground. The leaves are narrow, thick, ſucculent, poſſeſſed of pellucid drops which reflect the light, and grow in cluſters along the ſides of the branches. The flowers are produced along the ſides of the upper parts of the branches, growing uſually two or three together at each joint; they are of a greeniſh colour on the outſide, but yellow within; they appear in July and Auguſt, and the ſeeds ripen in the autumn and winter.

and Herbaceous Tetragonia deſcribed.

2. Herbaceous *Tetragonia.* This ſpecies is remarkable for a thick, ſoft, fleſhy root, of a yellow colour, and not unpleaſant to the taſte. The ſtalks are herbaceous, round, tender, and ſpread themſelves on the ground. The leaves are oval, thick, plane, full of juice, and of a lively green colour. The flowers are produced on long ſlender footſtalks, almoſt the whole length of the ſtalk; they are of a bright yellow colour, appear early in the ſpring, and

are frequently followed by ripe ſeeds in our gardens.

Culture.

Theſe are propagated with the utmoſt facility by ſeeds or cuttings. The ſeeds ſhould be ſown on a ſlight hotbed in the ſpring, the more effectually to cauſe them to vegetate; otherwiſe they often remain a whole year before they come up. When they make their appearance they ſhould be treated very hardily, have little water, and be expoſed to the full air on all favourable opportunities; otherwiſe they will die: And when they are about three or four inches high, they may be taken up with a ball of earth to each root, and planted ſeparately in pots filled with light, freſh earth. They muſt then be ſet in the ſhade in ſome open part of the garden; and after they have ſhewed ſigns of growth, they may be ſet under a ſouth wall, or any warm place full upon the ſun. Here they may remain until the end of October, or later if the weather is mild, and be then taken into the Green-houſe with the more hardy kinds of exotics. Theſe plants muſt have much freſh air in winter; otherwiſe they will rot; and if their ſtation be under a hotbed-frame, where the glaſſes may be taken off in all mild weather, or in a glaſs-caſe, where a due admiſſion of air may be granted them, they will ſucceed better than if crowded in the Green-houſe with other plants.

They are alſo encreaſed by cuttings. Theſe may be taken off in any of the ſummer-months; and after having lain a few days in a dry, airy place, for the wounded parts to ſkin over, may be planted pretty cloſe together in the open garden. They ſhould be kept ſhaded at firſt, and frequently watered, though in a ſmall quantity at a time; and when they have made tolerable good ſhoots, they ſhould be taken up with a ball of earth, be planted ſeparately in pots, and managed like the ſeedlings. The holes in the bottoms of the pots ſhould be carefully covered; and when the plants are ſet abroad in ſummer, they ſhould be placed on a ſlate or tile, or the like; otherwiſe their roots will find a paſſage through the holes, and penetrate into the ground; whereby the plants will become very luxuriant, and more liable to rot when taken into the houſe in winter.

Titles.

1. The firſt ſpecies is titled, *Tetragonia foliis linearibus*. In the *Hortus Cliffort.* it is named ſimply, *Tetragonia.* Commeline calls it, *Tetragonocarpus Africana rutilans, foliis longis & anguſtis*; and Seba, *Euonymo affinis Africana, portulacæ folio.* It grows naturally in Æthiopia. Fruticosa

2. The ſecond ſpecies is titled, *Tetragonia foliis ovatis.* Commeline calls it, *Tetragonocarpos Africana, radice magnâ craſſâ & carnoſâ.* It grows naturally in Æthiopia. Herbacea.

Claſs and order in the Linnæan Syſtem. The characters.

Tetragonia is of the claſs and order *Icoſandria Pentagynia*; and the characters are,

1. CALYX is a perianthium ſituated above the germen, compoſed of four oval, deflexed, plane, coloured, permanent leaves.
2. COROLLA. There is none.
3. STAMINA are twenty capillary filaments ſhorter than the corolla, having oblong, incumbent antheræ.
4. PISTILLUM conſiſts of a roundiſh, quadrangular germen ſituated below the calyx, and four awl-ſhaped, recurved ſtyles the length of the ſtamina, with hoary ſtigmas.
5. PERICARPIUM is a coriaceous, tetragonal cruſt, having four longitudinal wings or borders.
6. SEMEN. The ſeed is ſingle, oſſeous, and contains four cells. The kernels are oblong.

CHAP. CLXV.

TEUCRIUM, GERMANDER.

THE Green-houſe ſpecies of *Teucrium* are called,

Species.

1. Spaniſh Tree Germander.
2. Broad-leaved Spaniſh Tree Germander.
3. Cretan Poly.
4. Cretan Germander.
5. *Marum*, or Syrian Maſtich.

Spaniſh Tree Germander deſcribed.

1. Spaniſh Tree Germander. The ſtalk is woody, divides into many ligneous, hoary branches, and grows to be five or ſix feet high. The leaves are ſmall, oval, oblong, entire, ſmooth, of a bright green colour on their upper ſide, but downy underneath, and grow oppoſite to each other on ſhort footſtalks. The flowers come out ſingly, from the wings of the leaves, on ſhort footſtalks; they are of a blue colour, appear early in the ſummer, and often continue in ſucceſſion until the end of autumn; but the ſeeds ſeldom ripen well in our gardens.

Variety.

There is a variety of this ſpecies with beautifully ſtriped leaves.

Broad-leaved Spaniſh Tree Germander deſcribed.

2. Broad-leaved Spaniſh Tree Germander. The ſtalks are woody, five or ſix feet high, and divide into many downy branches, which ſpread almoſt horizontally. The leaves are broad, in figure of a rhombus, acute, entire, hairy, and very downy on their under-ſide. The flowers come out ſingly from the ſides of the branches, near the upper parts, on ſhort footſtalks; they are moderately large, of a pale blue colour, and ſhew themſelves in ſucceſſion the greateſt part of the ſummer; but the ſeeds ſeldom ripen in England.

Cretan Poly deſcribed.

3. Cretan Poly. The ſtalks are ligneous, branching, and about two feet high. The leaves are ſpear-ſhaped, narrow, entire; and grow on very ſhort footſtalks. The flowers are produced, in kind of ſpikes, from the ends of the branches; they are ſmall, and of a blue or purpliſh colour; they appear great part of the ſummer, but are rarely ſucceeded by good ſeeds in theſe parts.

Culture of Cretan Germander and Marum.

4, 5. The Cretan Germander and *Marum* are deſcribed, and recommended to be planted abroad, amongſt the Perennials, in warm, dry, well-ſheltered places; and they are mentioned here, only to remind the Gardener that they muſt be treated as Green-houſe plants, when ſuch a ſituation is wanted. Indeed the firſt, ſecond, and third ſpecies will bear our winters in the full ground, if very warmly ſituated.

Culture. They are propagated by ſlips or cuttings in the ſame manner as *Marums*, and the other hardy ſhrubby Germanders, which are amongſt the Perennials; and as they are eaſily propagated in this manner, any deſired quantity may be ſoon raiſed, and a ſelect number of plants be appropriated to ornament the Green-houſe, and have the treatment of the hardieſt plants there; whilſt the reſt may be ſet abroad in the different warm parts of the garden, to take their chance, as it may happen.

Titles. 1. Spaniſh Tree Germander is titled, *Teucrium foliis integerrimis oblongo-ovatis petiolatis: ſupra glabris, ſubtus tomentoſis, pedunculis unifloris.* In the *Hortus Cliffort.* it is termed, *Teucrium foliis ovato-oblongis integerrimis petiolatis, floribus ſolitariis pedunculatis.* Caſpar Bauhine calls it, *Teucrium peregrinum, folio ſinuato*; and Cluſius, *Teucrium fruticans Bœticum.* It grows naturally in Sicily and Spain.

Fruticans.

2. Broad-leaved Spaniſh Tree Germander is titled, *Teucrium foliis integerrimis rhombeis acutis villoſis: ſubtus tomentoſis.* Dillenius calls it, *Teucrium fruticans Bœticum, ampliore folio.* It grows naturally in Spain.

Lati=folium.

3. Cretan Poly is titled, *Teucrium foliis lanceolato-linearibus integerrimis, racemo ſpicato, floribus ternis.* In the *Hortus Cliffort.* it is termed, *Teucrium foliis lanceolato-linearibus integerrimis ſubſeſſilibus, floribus ſolitariis pedunculatis.* Caſpar Bauhine calls it, *Polium anguſtifolium Creticum*; and Alpinus, *Roſmarinum ſtæchados facie.* It grows naturally in Crete and Ægypt.

Creti=cum.

CHAP. CLXVI.

TROPÆOLUM, INDIAN CRESS, or DOUBLE *NASTURTIUM.*

Introductory obſervations. THE Smaller and the Larger Indian Creſſes are uſually reckoned as Annuals in our gardens; though with protection from froſts and bad weather they may be made to continue many years. The Single ſorts produce good ſeeds in ſuch plenty, riſe ſo freely in the ſpring, flower ſo early in the ſummer, and continue the ſucceſſion of blow ſo late in the autumn, that it is hardly worth while to be at the trouble of granting them their winter-lodgings in the Green-houſe to continue them through that ſeaſon, as better plants may be raiſed in the ſpring, which will flower fairer and ſtronger the ſummer following. It is not ſo with the Double kinds; they produce no ſeeds; and their continuance and propagation muſt be effected ſome other way.

Species. The Double Indian Creſs, or *Naſturtium*, is the plant proper for this place; and the culture is as follows:

Culture. Plant the cuttings, in any of the ſummer-months, in pots filled with ſandy, light, but not over-rich earth. When this is done, remove them into the ſhade until they have taken root, and now and then refreſh them with water; and as their ſtalks ſhoot forth, train them up to ſticks, in order to make their ſhow of flowers more viſible. Let them continue abroad all ſummer with other tender plants, and early in the autumn remove them into the Green-houſe; for the firſt froſt that comes will deſtroy them

During the winter they muſt not have a drop of water, for that will rot them; and by denying them that fluid, they will not only live throughout the winter, but be more prolifick in flowers, and leſs rambling. When they are ſet abroad in the ſummer they muſt be watered with other plants, and in the autumn and winter muſt be managed as before.

The titles of this ſpecies have been given already.

CHAP. CLXVII.

VITEX, The CHASTE TREE.

THE ſpecies of this genus proper for the Green-houſe are,

Species. 1. Three-leaved Indian *Vitex.*

2. Serrated-leaved Indian *Vitex.*

Three-leaved Indian Vitex deſcribed. 1. Three-leaved Indian *Vitex.* The ſtalks are woody, five or ſix feet high, and ſend forth ſeveral branches from the ſides, which are covered with a brown bark. The leaves are for the moſt part trifoliate, though frequently five folioles grow together on a footſtalk: Theſe are of an oval figure, ſharp-pointed, entire, a little downy on their under-ſide, and continue all the year. The flowers come out from the diviſions of the branches in dichotomous panicles; they are ſmall, of a white colour, and are not ſucceeded by ſeeds in England.

Variety. There is a variety of this ſpecies with blue flowers.

Serrated-leaved Indian Vitex deſcribed. 2. Serrated-leaved Indian *Vitex.* The ſtalks of this ſpecies are woody, branching, covered with a grey bark, and grow to about five or ſix feet high. The leaves are both quinate and ternate, there being ſometimes five and ſometimes three folioles only on a footſtalk: Theſe are oval, ſpear-ſhaped, ſerrated, and have many conſpicuous veins on their under-ſide. The flowers come out from the ends and ſides of the branches in looſe panicles; they are of a blue colour, come out in July and Auguſt, and are not ſucceeded by ſeeds in England.

Varieties. There is a variety of this ſpecies with white flowers, and, as I have been informed, another with a red ſtalk; but I have never ſeen it.

Culture. The beſt way of propagating theſe plants is by layers. Theſe ſhould be performed on the young ſhoots, which being laid in the ſpring, will have ſtruck good root by the autumn. In the ſpring, juſt before they begin to ſhoot, the layers ſhould be taken from the ſtocks, and each ſhould be ſet in a ſeparate pot: The pots ſhould be then plunged into a ſlight hotbed to forward the growth of the plants, which muſt afterwards be hardened by degrees to the open air. When this is effected, they may be ſet abroad with other tender plants, and in the autumn removed into the Green-houſe.

They are alſo propagated by cuttings. Theſe ſhould be planted in pots early in April, be watered, and plunged up to the rims in a good bark-bed. Here they muſt have little air at firſt, be regularly ſhaded and frequently watered, and in a little time they will commence good plants. When you find they have taken root, and are in a growing ſtate, they muſt have proportionally more air, be hardened by degrees to the full air, and afterwards treated as the other plants.

1. Three-leaved Indian *Vitex* is titled, *Vitex foliis ternatis quinatiſque integerrimis, paniculis* Titles. Trifolia. *dichotomis.* Plukenet calls it, *Vitex trifolia minor Indica*; Caſpar Bauhine, *Piperi ſimilis, fructus ſtriatus, fœmina*; and Rumphius, *Logondium vulgare.* It grows naturally in India.

2. Serrated-leaved Indian *Vitex* is titled, *Vitex* Negundo. *foliis quinatis ternatiſque ſerratis, floribus racemoſo-paniculatis.* Plukenet calls it, *Vitex trifolia minor Indica ſerrata*; John Bauhine, *Negundo arbor mas*; and Rumphius, *Logondium litoreum.* It is a native of India.

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CHAP. CLXVIII.

ULEX, FURZE, WHINS, or GORSE.

Introductory obſervations. THE Common Furze or Gorſe of our heaths is ſo well known as to occaſion its being little reſpected by the Engliſh, though careſſed in ſome countries as a valuable flowering ſhrub. Beſides this, there is another ſpecies, of African growth; and which, though of inferior beauty to our own Gorſe, is nurſed with all the tenderneſs and care of a Green-houſe plant. This foreign ſpecies is uſually called, African

Species. Berry-bearing Furze.

The plant deſcribed. The ſtalks are hard, woody, branching, four or five feet high, and covered with a light-coloured bark; but the young ſhoots are green, tender, flexible, and terminated by a ſimple ſpine. The leaves are ſmall, ſingle, obtuſe, and ſomewhat reſemble thoſe of Heath. The flowers come out from the ſides of the branches in the early part of the ſummer, but very rarely appear in England; neither do the ſeeds ripen in theſe parts.

Culture. This plant is beſt propagated by the ſeeds, which ſhould be procured from Africa, where it naturally grows. The ſeeds ſhould be ſown as ſoon as poſſible in pots of light, freſh earth, and in the ſpring ſhould be plunged into a hotbed to bring them up. When they are fit to remove, each plant ſhould have a ſeparate pot, be plunged into a ſecond hotbed, and watered and ſhaded until they have taken root; when they ſhould be hardened by degrees to the open air. As ſoon as this is effected, they ſhould be ſet abroad in a warm, well-ſheltered place, and at the end of autumn be removed into the Green-houſe with the hardy plants, and managed accordingly.

It is alſo propagated by layers. Theſe ſhould be performed on the young ſhoots, and be duly watered; otherwiſe they will be two or three years before they ſtrike root.

It is alſo raiſed by cuttings. Theſe ſhould be planted in pots, and plunged into a good hotbed; and if they are duly watered and ſhaded, many of them will grow. As ſoon as you find them in a growing ſtate, you muſt gradually harden them to the open air, and then ſet them abroad like the ſeedlings.

Titles. Capensis. This ſpecies is titled, *Ulex foliis ſolitariis obtuſis, ſpinis ſimplicibus terminalibus.* Plukenet calls it, *Geniſta Spartium bacciferum, ericæ foliis, Africanum.* It grows naturally in Æthiopia.

C H A P. CLXIX.

WACHENDORFIA.

Species. OF this genus there are two ſpecies, called,
1. Thyrſe-flowering *Wachendorfia.*
2. Paniculated *Wachendorfia.*

Thyrſe-flowering 1. Thyrſe-flowering *Wachendorfia.* The root is thick, fleſhy, and of a deep-red colour. The radical leaves are large, ſpear-ſhaped, have five longitudinal nerves, and are channelled and plaited. The ſtalk is ſimple, three or four feet high, and adorned with leaves like the radical ones, but ſmaller, growing alternately, and ſurrounding it with their baſe. The flowers are collected into a thyrſe at the top of the ſtalk, and are of a ſaffron colour on their outſide, but yellow within; they appear in May and June, and the ſeeds ripen in Auguſt.

and Paniculated Wachendorfia deſcribed. 2. Paniculated *Wachendorfia.* The root is thick, and fleſhy. The leaves are ſword-ſhaped, broad, trinervous, and channelled. The flowers come out in ſpreading panicles from the tops of the ſtalks, appear about the ſame time with the former, and the ſeeds ripen accordingly.

Culture. Theſe plants are propagated by offſets, which ſhould be taken off in Auguſt or September, when the ſtalks decay. They ſhould then be planted in pots filled with light, rich, ſandy earth, and ſet in a ſhady place until the autumn; when they ſhould be removed into a warm, well-ſheltered place, full upon the ſun. In this ſituation they may remain until the froſts threaten to approach; when they ſhould be placed in the Greenhouſe, or under a hotbed-frame, or ſome cover, for their winter-lodgings, and ſet abroad in the ſpring when all danger of ſuffering from froſt is over.

Titles. 1. The firſt ſpecies is titled, *Wachendorfia ſcapo ſimplici.* Burman calls it, *Wachendorfia foliis lanceolatis quinquenerviis canaliculato-plicatis, floribus in thyrſum collectis.* It grows naturally at the Cape of Good Hope. Thyrsiflora

2. The ſecond ſpecies is titled, *Wachendorfia ſcapo polyſtachyo.* Breynius calls it, *Siſyrinchium ramoſum Æthiopicum*; alſo, *Aſphodelus latifolius floribus patulis.* It grows naturally at the Cape of Good Hope. Paniculata.

Claſs and order in the Linnæan Syſtem. *Wachendorfia* is of the claſs and order *Triandria Monogynia*; and the characters are,

The characters. 1. CALYX. The ſpathæ are compoſed of two valves.

2. COROLLA conſiſts of ſix petals, the three upper ones being nearly erect, the lower ones ſpreading.

The nectarium is placed on the interior ſide of the upper petal.

3. STAMINA are three filiforme, declining filaments ſhorter than the corolla, having incumbent antheræ.

4. PISTILLUM conſiſts of a roundiſh, three-cornered germen ſituated within the flower, a filiforme, declining ſtyle, and a ſimple ſtigma.

5. PERICARPIUM is a ſuboval, three-ſided, obtuſe capſule, formed of three valves, and containing three cells.

6. SEMINA. The ſeeds are ſingle, and rough.

C H A P. CLXX.

XERANTHEMUM.

Species. OF this genus are,
1. Broad-leaved *Xeranthemum.*
2. Narrow-leaved *Xeranthemum.*
3. Trailing *Xeranthemum.*
4. Scaly-leaved *Xeranthemum.*
5. Hoary *Xeranthemum.*

Broad-leaved Xeranthemum deſcribed. 1. Broad-leaved *Xeranthemum.* The ſtalk is woody, upright, branching, and three or four feet high. The leaves are ſpear-ſhaped, an inch or more in breadth, trinervous, hoary underneath, and embrace the ſtalk with their baſe. The flowers come out ſingly from the ends of the branches, are large, gloſſy, and of a yellow colour; they appear in July, Auguſt, and September, but the ſeeds ſeldom ripen in England.

Variety. There is a variety of this ſpecies with white flowers.

Narrow-leaved, 2. Narrow-leaved *Xeranthemum.* The ſtalk is woody, erect, branching, and three or four feet high. The leaves are ſpear-ſhaped, long, narrow, hoary, and ſoft to the touch. The flowers come out ſingly from the ends of the branches; they are large, gloſſy, and of a ſilvery-white colour; they appear in July, Auguſt, and September, but the ſeeds ſeldom ripen in England.

Trailing, 3. Trailing *Xeranthemum.* The ſtalks are ligneous, ſlender, three or four feet long, and, unleſs ſupported, lie on the ground. The leaves are ſmall, reflexed, white, and come out without order, ſitting cloſe to the ſtalks. The flowers come out, two or three together, from the wings of the leaves; they are of a white colour, appear about the ſame time with the former, but are rarely ſucceeded by ſeeds in theſe parts.

Scaly, 4. Scaly *Xeranthemum.* The ſtalk is woody, branching, hoary, and three or four feet high. The leaves are like ſcales, ſmall, acute-pointed, hoary, and ſit cloſe to the branches. The flowers come out ſingly from the ends of the branches, are large, and of a ſilvery-white colour; they appear with the former, but the ſeeds do not ripen with us.

and Hoary Xeranthemum deſcribed. 5. Hoary *Xeranthemum.* The ſtalks are woody, branching, hoary, and three or four feet high. The leaves are oval, roundiſh, naked, and come out without order from the ſides of the ſtalks. The flowers come out, from the ends and ſides of the ſtalks, on ſcaly footſtalks; they are of a purple colour, appear in July, Auguſt, and September, but the ſeeds ſeldom ripen in England.

Culture. All theſe plants are eaſily raiſed by planting the cuttings, in any of the ſummer-months, in pots filled with light, rich earth. The pots muſt be plunged up to the rims in ſome common garden-mould, and be ſet many together, in the form of beds, for the convenience of ſhading. This being effected, the plants muſt be well watered, and the beds hooped and covered with mats; and this will cauſe them to ſtrike root immediately. When they are in a growing ſtate, the mats muſt be taken off; otherwiſe they will cauſe the plants to grow weak and bad-coloured: But if the ſituation is warm and well defended, the pots need not be removed until the end of autumn, obſerving to water them at proper intervals in dry weather.

When the early winter-froſts threaten to approach, the plants may be removed under ſome cover, or be ſet in the Green-houſe, for their winter-lodgings; and in ſummer they may be ſet abroad with others of the like nature.

They muſt from time to time be ſhifted into larger pots, as they ſhall require; and a ſupply of freſh plants ſhould regularly be made, by raiſing others at proper intervals, becauſe they become leſs beautiful as they advance in age; neither are they of long continuance with us.

Titles. 1. The firſt ſpecies is titled, *Xeranthemum fruticoſum erectum, foliis amplexicaulibus lanceolatis trinerviis, ramis unifloris ſubnudis.* Burman calls it, *Xeranthemum tomentoſum latifolium, flore maximo*; Boerhaave, *Elichryſum Africanum arboreſcens, foliis incanis latioribus*; and Breynius, *Elichryſum Africanum lanuginoſum latifolium, calyce floris argenteo & ampliſſimo.* It grows naturally in Æthiopia. Speciociſ=ſimum.

2. The ſecond ſpecies is titled, *Xeranthemum fruticoſum erectum, foliis adnatis lanceolato-linearibus apice calloſo-mucronatis, ramis unifloris folioſis.* Burman calls it, *Xeranthemum fruteſcens lanuginoſum, foliis longis mollibus, flore argenteo ampliſſimo*; Ray, *Xeranthemum Africanum ramoſum, gnaphalii foliis anguſtioribus tomentoſis oblongis, floribus albis magnis apicibus nigris*; and Petiver, *Xeranthemum ſpecioſum Capenſe, flore albo maximo.* It grows naturally in Æthiopia. Veſtitum.

3. The third ſpecies is titled, *Xeranthemum caulibus fruteſcentibus provolutis, foliis tomentoſis recurvatis.* In the *Hortus Cliffort.* it is termed, *Xeranthemum receptaculis nudis, ſeminum pappo plumoſo.* Dillenius calls it, *Xeranthemum procumbens, polii folio.* It grows naturally in Æthiopia. Retor=tum.

4. The fourth ſpecies is titled, *Xeranthemum ramis unifloris imbricatis, foliis linearibus adpreſſis.* Burman calls it, *Xeranthemum ramoſum, foliis ſquamoſis linearibus*; Plukenet, *Xeranthemum ſeſamoides, flore albo, ericæ foliis cauli tomentoſo adſtrictis: ad radicem vero ſtæchadis citrinis longioribus & ſolutis*; and Breynius, *Elichryſum Africanum lanuginoſum, anguſtiſſimo folio, calyce floris argenteo & ampliſſimo.* It grows naturally in Æthiopia. Seſamoides.

5. The fifth ſpecies is titled, *Xeranthemum caulibus fruticoſis, foliis ovatis nudis, pedunculis ſquamoſis.* Burman calls it, *Xeranthemum incanum, foliis ſubrotundis, flore purpureo.* It grows naturally at the Cape of Good Hope. Caneſcens.

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CHAP. CLXXI.

YUCCA, ADAM's NEEDLE.

Species. THE more tender ſpecies of this genus are,

1. Aloe-leaved *Yucca.*
2. Dragon-Tree-leaved *Yucca.*

Aloe-leaved Yucca deſcribed. 1. Aloe-leaved *Yucca.* The ſtalk is thick, fleſhy, tough, and about ten feet high. The leaves are long, narrow, ſtiff, ſlightly ſerrated, terminate in ſharp thorns, and adorn the ſtalk in a very large tuft at the top. From the center of the leaves ariſes the flower-ſtalk: This branches into a pyramidical form, and grows to two or three feet high. The flowers are produced in ſpikes on theſe branches, ſitting cloſe; they are of a white colour within, and of a bright purple on their outſide; and as the ſpikes are numerous, forming a pyramid of a conſiderable height, the appearance is very grand. They uſually ſhew themſelves in Auguſt and September, but are not ſucceeded by ſeeds in England.

This plant flowers but rarely; and on the decay of the flowers, the head of the plant dies; but new ones are generally formed, from the ſide of the ſtalk, a little lower.

Dragon-Tree-leaved Yucca deſcribed. 2. Dragon-Tree-leaved *Yucca.* The ſtalks are thick, round, branching, covered with a brown bark, and about a yard high. The leaves are long, narrow, of a dark-green colour, ſerrated, end in ſharp ſpines, and hang downwards. The flower-ſtalk is large, and divides into numerous branches, which ſupport the flowers in longiſh ſpikes; they are of a pale fleſh-colour, appear about Auguſt or September, but are never ſucceeded by ſeeds in England.

Culture. Theſe plants are raiſed from ſeeds in the ſame manner as has been directed for the Common Adam's Needle; to which, to avoid repetition, the reader is referred.

They are alſo propagated by offsets in the ſame manner. When a multitude of theſe plants is wanted, and no ſeeds can be procured, the beſt way will be to cut off the heads of the plants; and this will occaſion them to throw out ſuckers in plenty, which in a little time will be fit to take off from the mother-plant. The heads alſo will grow, if plunged into a moderate hotbed, and ſoon commence ſtrong plants. The time for cutting off the heads is in June, when they muſt be laid in a dry, airy place for the wounded parts to ſkin over: They will take a longer time than the ſuckers, which generally heal over, and are fit for planting, in four or five days. Offsets or ſuckers from theſe plants are rarely produced until they come to flower; which makes decapitation ſo highly neceſſary when many of theſe plants are wanted to be raiſed, and when no good ſeeds can be conveniently procured. They are all very hardy, and require the ſame treatment in the Green-houſe as the hardy Aloes.

Titles. 1. Aloe-leaved *Yucca* is titled, *Yucca foliis crenulatis ſtrictis.* In the *Hortus Cliffort.* it is termed, *Yucca foliorum margine crenulato.* Dillenius calls it, *Yucca arboreſcens, foliis rigidioribus rectis ſerratis*; Plukenet, *Aloë, yuccæ foliis, cauleſcens*; and Commeline, *Aloë Americana, yuccæ folio, arboreſcens.* It grows naturally in Jamaica and La Vera Cruz. Aloifo=lia

2. Dragon-Tree-leaved *Yucca* is titled, *Yucca foliis crenatis nutantibus.* In the *Hortus Cliffort.* it is termed, *Yucca foliorum margine crenulato.* Van Royen calls it, *Cordyline foliis pungentibus crenatis*; Dillenius, *Yucca draconis folio ſerrato*; and Caſpar Bauhine, *Draconi arbori affinis Americana.* It grows naturally in America. Draco=nis

CHAP. CLXXII.

ZYGOPHYLLUM, BEAN CAPER.

Species. Of this genus are,

1. Seſſile-leaved Bean Caper.
2. Purſlane-leaved Bean Caper.
3. White Bean Caper.
4. Scarlet Bean Caper.
5. Prickly Bean Caper.

Seſſile-leaved Bean Caper deſcribed. 1. Seſſile-leaved Bean Caper. The ſtalk is woody, thick, branching irregularly, and three or four feet high. The leaves are ſpear-ſhaped, oval, thick, ſmooth, ſucculent, ſeſſile, and ſurround the branches by fours at the joints. The flowers come out, from the wings of the leaves, on long footſtalks; they are of a yellow colour, having a reddiſh ſpot in each petal near the baſe; they continue in ſucceſſion the greateſt part of the ſummer and autumn, and the ſeeds ripen in the autumn and winter.

Varieties. The principal varieties of this ſpecies are,

The White-flowered,
The Yellow,
The Sulphur-coloured,
The Copper coloured.

They all flower nearly at the ſame time, and have a ſpot of brown or red at the bottom of each petal.

Purſlane-leaved, 2. Purſlane-leaved Bean Caper. The ſtalk is woody, divides irregularly into many jointed branches, and grows to be three or four feet high. The leaves are ſhaped like thoſe of Purſlane, but are larger; they are of a thick conſiſtence, ſucculent, obtuſe, and ſurround the ſtalk by fours at the joints. The flowers come out, from the wings of the leaves, on ſlender footſtalks; they are of a ſulphur-colour, having a brown ſpot at the baſe of each petal; they appear in ſucceſſion the greateſt part of the ſummer and autumn, and are ſometimes (though but rarely) ſucceeded by ripe ſeeds in England.

White, 3. White Bean Caper. The ſtalk is woody, branching, jointed, and four or five feet high. The leaves are thick, fleſhy, clavated, and grow on footſtalks at the joints. The flowers come out, from the wings of the leaves, at the joints; they are of a white colour, and ſhew themſelves the latter end of ſummer and in the autumn.

Scarlet, 4. Scarlet Bean Caper. The ſtalk is woody, branching, jointed, and four or five feet high. The leaves are narrow, taper, fleſhy, and grow on footſtalks at the joints. The flowers are of a beautiful ſcarlet colour, and appear about the ſame time with the former.

and Prickly Bean Caper deſcribed. 5. Prickly Bean Caper. The ſtalk is ligneous, branching, prickly, and two or three feet high. The leaves are narrow, acute, and ſit cloſe to the branches. The flowers come out from the wings of the leaves in July, continue in ſucceſſion the remaining part of the ſummer, and are ſucceeded by roundiſh capſules, containing ripe ſeeds, in the autumn and winter.

Culture. All theſe plants are eaſily raiſed from cuttings; which may be done by planting them in a ſhady place in any of the ſummer-months. They muſt be duly watered until they have taken root; and when they are in a good growing ſtate, they ſhould be taken up with a ball of earth to each root, and planted in ſeparate pots filled with light, freſh earth. They muſt next be watered, be ſet in the ſhade during the remaining part of the ſummer, and in the autumn be removed into ſome warm, well-ſheltered place; where they may remain until November, and be then ſet in the Green-houſe, or in the glaſs-caſe, for their winter-lodgings.

When good ſeeds can be procured, the beſt plants may be raiſed that way. Theſe ſhould be ſown on a hotbed in the ſpring. When the plants are fit to remove, each muſt have a ſeparate pot, and be ſhaded and watered until it has taken root; after which they muſt be hardened by degrees to the open air, and be then ſet abroad and managed as the cuttings.

Titles. Sessili-folium. 1. Seſſile-leaved Bean Caper is titled, *Zygophyllum foliis ſeſſilibus: foliolis lanceolato-ovalibus margine ſcabris, caule fruticoſo.* In the former edition of the *Species Plantarum* it is termed, *Zygophyllum capſulis globoſo-depreſſis*; alſo, *Zygophyllum capſulis ovatis acutis.* Dillenius calls it, *Fabago Capenſis fruteſcens minor*; Burman, *Fabago humilis quadrifolia glabra, flore albido, fructu rotundo*; alſo, *Fabago flore luteo, petalorum unguibus rubris, fructu ſulcato acuto oblongo*; and Commeline, *Fabago Africana arboreſcens, flore ſulphureo, fructu rotundo.* It grows naturally in Æthiopia.

2. Purſlane-leaved Bean Caper is titled, *Zygophyllum foliis ſubpetiolatis: foliolis obovatis, caule fruticoſo.* In the former edition of the *Species Plantarum* it is termed, *Zygophyllum capſularum angulis compreſſo-membranaceis.* Burman calls it, *Fabago triphylla & tetraphylla, flore tetrapetalo, fructu membranaceo quadrangulari*; Dillenius, *Fabago Capenſis fruteſcens major*; and Plukenet, *Planta Africana fruteſcens, portulacæ foliis, Morgſani Syrorum, ex brevi pediculo binis.* It grows naturally in Æthiopia. Morgsana.

3. White Bean Caper is titled, *Zygophyllum foliis petiolatis, foliolis clavatis carnoſis.* It grows naturally in Ægypt. Album.

4. Scarlet Bean Caper is titled, *Zygophyllum foliis petiolatis: foliolis linearibus carnoſis.* In the former edition of the *Species Plantarum* it is termed, *Zygophyllum capſulis cylindricis.* Shaw calls it, *Fabago Arabica teretifolia, flore coccineo.* It grows naturally in Africa. Coccineum.

5. Prickly Bean Caper is titled, *Zygophyllum foliis ſeſſilibus: foliolis linearibus, caule fruticoſo.* In the former edition of the *Species Plantarum* it is termed, *Zygophyllum caule aculeato.* Burman calls it, *Fabago tenuifolia ſpinoſa, fructu rotundo.* It grows naturally in Æthiopia. Spinosum.

A COM-

A
COMPLETE BODY
OF
PLANTING and GARDENING.

BOOK IV.

PART III.

OF STOVES.

Introductory obſervations.

STOVES are deſigned for the habitation of ſuch trees and plants as cannot endure our open air, nor yet live, though protected with ſhelter, unleſs their ſtation be warmed by artificial heat, and made nearly of the temperature of the different countries from which they were brought. This is to be effected by the proper collecting of the ſun's rays, the heat of fermented bark, and the additional ingredients of real fire: Theſe three are to form the compoſition that is to bring the air into a due temperature, in which plants from the hotteſt parts of the world are to live and flouriſh; and by the right ſkill and management of theſe they may be made to live and flouriſh, and ſhew themſelves, in general, to as great perfection as they do in their own countries; ſo that in our Stoves we may at once behold the beautiful ſhrubs, and plants that adorn the African coaſts, and the more inland and fertile parts of that vaſt country: The produce of the Eaſt and Weſt Indies alſo may be made to join in the aſſembly; ſo that we now may live no longer ſtrangers to the trees and plants that Jamaica and all the hot parts of America yields. Here the Bully-tree, the Calabaſh-tree, the Cocoa-nut-tree, the Cuſtard-tree, the Date-tree, the Indian-fig-tree, the Macaw-tree, the Mammee-tree, the Machinel-tree, the Nicker-tree, the Papaw-tree, the Jamaica Plum-tree, the Tapotilla-tree, the Tamarind-tree, and all the ſorts of Palm-trees ſo much talked of by travellers, may be ſeen growing; here Ginger, Logwood, Barbadoes Button Wood, Bananas, Allſpice, Cuſtard-apple, Hog-plum, *Santa-Maria*, Sour-ſop, Sweet-ſop, &c. are not wanting; here the Senſitive Plants, Coffee, and all the vaſt train of tender Annuals, Perennials, &c. may be found.

Thus in our Stoves we are ſurrounded with the vegetable treaſures of the hotter parts of the world; and in theſe, together with what are found in our Green-houſes, Wilderneſs-quarters, Flower-gardens, &c. we may behold the principal produce of the whole earth, with which the Almighty hath ſo beautifully enriched, and ſo wonderfully adorned this globe.

Stoves therefore, for thoſe grand purpoſes, muſt be ſeveral in number; and different degrees of heat muſt be given to different Stoves, that plants from different countries may meet with ſuch temperature of air as will be ſuitable to their natures.

The different Sorts of Stoves, and their uſes.

They may be divided into two different ſorts:

1. The Bark Stove.

2. The Dry Stove.

The former of theſe is for univerſal uſe; the latter is chiefly uſed for tender, ſucculent, and ſome particular ſorts of plants.

Both theſe ſorts ſhall be conſidered in their places; and,

Directions for building the Caſe of the Bark-Stove.

1. The Bark Stove. The ſituation for this ſhould be full upon the ſouth; the ground ſhould be riſing, naturally dry, and well defended from the northern blaſts. The conſtruction ought to be as follows:

The length ſhould be ſix and thirty feet, and the breadth fourteen feet. If it be much longer, one fire-place will be inſufficient to keep the air in a proper degree of warmth; ſo that when a general collection of tender plants is wanted, there muſt be three or more of theſe ſtoves ranged in a right line, which will not only be capacious enough to contain a very large number of plants, but different degrees of heat may be given to the different Stoves, according to the nature of the plants placed in them.

Having therefore meaſured the length thirty-ſix feet, and the breadth fourteen feet, let the foundation be laid; and let the front wall be raiſed a foot above the common level of the ground: On this the glaſſes are to be placed in their proper frames, and the flues muſt be made in the back wall. The fire-place ſhould be at the upper part of the wall next the eaſt; and a ſhed, or tool-houſe, as was directed for the Green-houſe, behind it, for the more conveniently managing the fire, and preſerving the Stoves from the chills of intenſe froſts; though this is to be the paſſage into the ſtove, and the door is to be at the oppoſite end to that of the fire-place. The back wall ſhould be fourteen feet high; both that and the end walls ſhould be two bricks length and a half thick; and the foundation of the back wall muſt be laid wide enough for the flues, as well as the wall. The fire-place may not be unlike ſome of thoſe in brew-houſes, though larger or longer, according to the fuel it is to contain, whether coals, turf, or peat. An iron door ſhould always cloſe it when neceſſary, a proper ſpace ſhould be left for aſhes, and over the aſh-hole an hole ſhould be left to draw the air, and cauſe the fire to burn: This only a judicious maſon knows how to regulate; and it muſt be ſo contrived as to keep up a regular and uniform heat, and to conſume as little fuel as poſſible. It muſt in a manner be made within the houſe, the more effectually to ſend the heat forwards; and the top of it ſhould be nearly of a height with the bark bed. From this fire-place the flues are to proceed againſt the back wall, being ranged one over the other: The loweſt ſhould be ſix and twenty inches in the clear, the next twenty, the next ſeventeen, the next fifteen, the next fourteen, the next thirteen, and the next twelve. Here are ſeven flues ranged one over another, which is a very proper number; four, five, or ſix, however, are often made to do; but if there were to be eight in number, it would be ſtill ſo much the better. They muſt be made to run as near as poſſible to the end of the houſe, and the uppermoſt flue muſt terminate in an upright chimney, to carry off the ſmoke.

There muſt be a ſlight wall within-ſide the flues, the more effectually to keep the ſmoke out of the houſe; and the bricklayer need not be told to make this as compact as poſſible: The ſmoke by ſo many windings will be ready to burſt through any crevice; and if this is not effectually kept out of the houſe, it will ſoon bring deſtruction to the plants.

Thus having erected the back wall of our Stove, together with the flues, we proceed now to the front. A good brick wall we have ſuppoſed already raiſed one foot high above the common ground; on this ſhould be placed a piece of good heart of oak, large enough to ſupport the uprights and frames for the glaſſes, and, in ſhort, to ſupport the front of the whole Stove. The uprights, or perpendicular bars, ſhould be about eight feet high; they ſhould be perfectly ſound and ſtrong, and ranged the diſtance of four feet and an half from each other: Theſe are the chief ſupports of the front, and between theſe the glaſs work, or ſaſhes, is to be placed. A roof muſt be laid on the top of the back wall and flues, and carried down, to become a roof alſo to the houſe behind: It muſt be well ſlated, pargeted, and made cloſe and warm; and at the top of this ſhould be a ſolid piece of good oak timber, ſtrong enough to receive the glaſs lights, which may be made to draw on and off, and to reach from thence to the glaſſes in front. Theſe glaſſes may be allowed a greater or leſs degree of ſlope, according as the height of the plants in the Stove makes it neceſſary; they muſt have ſhutters, or coarſe cloths, to draw on and off; both to keep the place warm, and alſo to prevent the glaſſes being broken with hail ſtorms, &c. which often do incredible damage to the Gardener, and which cannot be too vigilantly guarded againſt. The ſhutters ſhould be made to draw on and off eaſily; the coarſe cloths ſhould be made into lengths, wound on rollers, and being fixed at the top, may by the aſſiſtance of pullies and ſtrings be drawn on or off with great eaſe; and they ſhould be made ſo long as to reach down, if neceſſary, even to the bottom of the front of the Stove.

Having thus given directions for the caſe, or outſide of the Stove, proceed we next to the inſide.

The Inſide of the Bark-Stove deſcribed.

The length of it is thirty-ſix feet, the breadth fourteen: In this the pit is to be formed that is to hold the bark for the plants, and which indeed is to occupy the whole area of the houſe, except neceſſary room for walking to view and take care of the plants. This walk ſhould go round the houſe, and ſhould be two feet or more from the front, the ends, and the flues behind; and having ſet off ſuch a ſpace for the walks, the other room is for the tan-pit. This muſt be a yard deep; two feet of which are to be below the ſurface of the houſe, and one foot above it, if the ground be naturally dry and warm: Accordingly, the pit muſt be dug rather better than two feet deep, and the bottom muſt be well rammed, and covered with aſhes. The ſides and ends ſhould be formed with a good brick wall, which ſhould be nine inches thick below the level of the walk; but above, its thickneſs need not be more than four inches. On this wall ſhould be laid a piece of good heart of oak, the whole length, to receive uprights, or whatever may be neceſſary to ſupport the roof of the Stove, as well as to preſerve the top of it from breaking.

Having thus finiſhed the tan-pit, let every part of the wood work be painted white, and every part of the inſide pargeting have a good white-waſh, and it will reflect the light better than the more expenſive practice of ſtucco and paint. Having compleated every thing, and the walls being well dried, &c. the bark is to be brought into the pit, and in a very little time the place will be in a condition for the reception of the plants.

This, then, is the conſtruction of a Stove. It may be made ſmaller or larger at pleaſure; though not conveniently larger, unleſs there be two fire-places, one at each end; ſo that when a greater number of plants is to be raiſed than ſuch a Stove can contain, the beſt way, will be to have two Stoves, or even three or more, made in the like manner, and ranged in a right line one with another. Theſe muſt be ſeparated by glaſs partitions only, that the light ſhining through the whole, may be of greater ſervice to the plants in their different apartments.

The glaſs doors belonging to theſe partitions ſhould be made to ſhut cloſe, and the other parts ſhould be well wrought; but ought nevertheleſs to be made to ſlide and open at the pleaſure of the Gardener, or as he finds it neceſſary for the due temperature of the whole place.

In every one of theſe Stoves different degrees of heat are to be kept up for plants of different degrees of tenderneſs; and when the heat in nay one, through any accident or neglect, is too much abated, it may be aſſiſted by drawing the glaſſes, and letting in the warmer air from the contiguous Stove, until the breach ſhall be repaired, or the neglect amended by double diligence.

Thus we may now ſuppoſe a range of Stoves to be erected, in order to conſiſt of different degrees of heat for plants of different degrees of tenderneſs, for the plants of India, and the hot parts of the earth. We ſhall proceed to the next ſtep proper for their reception, that is, filling of the pits.

Of Filling the Pits, and the After-management of the Stove.

The pits are filled with tanner's bark, after having been uſed by them for tanning of their leather: It is the bark of the Oak; and having been thrown out of their pits, and lain ſome time, it becomes the moſt proper ingredient with which to fill the pit for the Stove. Being laid on an heap, it naturally ferments, and brings on an heat, which for uniformity, and long continuance, exceeds every thing that can be thought of to anſwer the ends deſired.

The beds ſhould be a mixture of the largeſt and ſmalleſt bark; and that will more effectually enſure a continuance and regularity of heat. The fermentation of the largeſt bark comes on ſlowly; but then it heats the moſt violently, and laſts the longeſt: The fermentation of the ſmalleſt bark comes on the ſooneſt, but heats in a lower degree, and continues a much ſmaller time. This ſhould direct the Gardener how to make choice of his bark, and cauſe his bed to be beſt qualified to anſwer the purpoſes for which he wants it.

In general, a mixture of all the ſorts, the large, middling-ſized, and ſmall, ſhould be made. It ſhould be taken freſh from the tan-pit; and having ſpread it a few days to drain, it ſhould be laid on an heap to drain more, and ferment. In this heap let it lie about ſeven days, and it will then be in proper order for the pits in the Stove. In filling theſe pits, the bark muſt be ſpread regularly, lightly, and muſt be neither trodden nor preſſed down, which will cauſe it to heat irregularly; but by letting it lie light and fine as it falls, the fermentation will come on properly, and the heat will continue the longeſt time. A bed, from the time of making, will be ten days, a fortnight, and ſometimes three weeks before it is got to a due degree of heat. In order to know this more certainly, ſticks ſhould be plunged in the bark at the time of making the beds; which being drawn at times and felt, will ſhew the degree of heat it poſſeſſes. In general, the bed will continue four months in good condition; and whenever the heat abates, the bed is eaſily refreſhed by taking out all the pots, ſtirring up the bark with a three-tined fork, and making the addition of a little freſh bark: This will renew the heat of the bed, and cauſe it to continue in good order for a conſiderable time.

It is a rule with ſome Gardeners, to renew their beds every ſpring and autumn; and accordingly they form ſuch a mixture of the bark at firſt, and renew the beds afterwards, that they may continue in good heat ſix months. April and October are the times appointed for the operations; a ſufficient quantity of freſh bark is provided, and only the exhauſted part of the old bark is taken out. This is found chiefly on the upper part of the bed; and having cleared it entirely off, the freſh bark is added, and the old and new bark are all well mixed, and turned over together; then laid level and ſmooth as before: The new bark will cauſe the old to operate afreſh, and the fermentation will be raiſed to its due degree of heat and order. It will with a little refreſhment keep good for ſix months, at the end of which it would be proper to take out all the pots, and renew the bed as before.

In placing the pots in the middle of the bed, a ſtrong plank ſhould be in readineſs on which the Gardener is to ſtand, for he muſt by no means tread on the bark; the pots muſt be plunged up to the rims, and muſt be placed cloſe to each other. Some place them only about half way down at firſt, and ſo let them down to the rims by degrees; but this is very unneceſſary trouble; for they may be ſet up to the rims at firſt, unleſs the fermentation of the tan occaſions too violent an heat; which very rarely happens, unleſs the beds be entirely new, and all of the largeſt bark.

Watering muſt be afforded the plants very frequently, tho' not in large quantities at a time. The heat cauſes them to perſpire freely; and if they are not granted a proportional quantity of moiſture, they will ſoon droop, and loſe their leaves.

The different degrees of heat for the different Stoves muſt be regulated by the thermometer. Every Stove muſt have its own thermometer; and this muſt not be placed near the fire-place, or where the ſun can come, that it may more perfectly indicate the real ſtate of the air in the houſe. The degrees are marked proper for the hotteſt ſtoves; and nothing can be more eaſy than to lower the heat to any degree the plants in another ſtove will require. As the conſtancy and the uniformity of the heat muſt be known by the thermometer, the Gardener muſt very frequently viſit this uſeful inſtrument, and ſee that it is always kept in good order. Too much heat is deſtructive to plants, as well as cold; ſo that whenever the Gardener finds the heat of any particular ſtove about three degrees above the temperature deſigned it, he muſt lower it gradually; and whenever he finds the heat abated the ſame number of degrees leſs than what the temperature of the ſtove requires, it is eaſily helped by giving a briſker motion to the flues.

Thus every thing will be kept in good order; the plants will aſſume and retain an air of healthfulneſs; the moſt lively colours will ſhew themſelves on the leaves, branches, flowers, and fruit; and the plains of India will be unable to ſhew their plants in greater perfection than is found in our Stoves.

2. The Dry Stove is more diſuſed than ever, ſince the before-mentioned Stove has been ſo much increaſed and improved. Its chief deſign is to contain ſuch tender ſucculent plants as are natives of the barren and parched ſands of Africa, and other burnt parts of the world.

Directions for erecting and managing the Dry Stove.

There will be plenty of room in the Bark Stove, above the flues, &c. in which many of theſe plants may be ſtationed; but as this Treatiſe is deſigned to exhibit a general collection, and thoſe of this claſs bear no inconſiderable ſhare, they ought to be allowed a room to themſelves; which room is uſually called the Dry Stove. The manner of building the Dry Stove differs very little from the former Stove: A warm well-ſheltered place muſt be pitched on for the purpoſe; and the dimenſions ſhould be according to the quantity of plants it is to contain. The front muſt have upright glaſſes, with others aſlant to meet them; the back wall muſt be erected; the ends muſt be firm and good; a ſhed is to be built behind it; the fire-place is to be at one end of the back wall, and the door-place to enter thro' the ſhed into the ſtove at the other: In ſhort, it need differ in no reſpect from the other; only the flues ought to run under the floor, on which account the floor ſhould be raiſed at leaſt a yard above the common level of the ground.

The fire-place ſhould be made large enough to contain a quantity of fuel that will be ſufficient, if neceſſary, to burn all night; and the flues ſhould proceed from it in a winding or ſerpentine manner, ſo as to reach from the back to the front of the houſe: They ought to be a foot and an half deep, and about the ſame in breadth, the more effectually to carry off the ſmoke; and having filled up the vacancies with coal ſlack, ſand, rubbiſh, or other dry materials, the floor may be laid over them. Their aftercourſe ſhould be along the back of the houſe, which ſhould be in ſtraight lines, one above another; and they ſhould diſembogue the ſmoke in upright chimneys at each end of the houſe, or in the middle. The Bricklayer muſt exert his ſkill in the compact working of the flues, to prevent the ſmoke breaking into the houſe; they muſt be well plaiſtered within and without. The fire-place ſhould be laid as low as poſſible, that the flues may have a little riſe for the ſmoke from thence, until the time it quits the houſe; and this will cauſe it to draw better than if the flues were on a level. The floor of the Stove, however, muſt be laid perfectly level: It is to conſiſt of broad ſquare tiles, laid in dry ſand of two, three, or more inches thickneſs over the flues, according to the diſtance they are from the fire-place. There remains now only a good plaiſtering and white-waſh to be laid over the walls, and a white paint for the wood-work; and as ſoon as that is effected, your Dry Stove is compleated

A ſcaffold ſhould be placed in the houſe, conſiſting of a flight of ſhelves one above another, for the reception of the pots. It may be made to come within about a yard of the front, and to approach the back part and the ends at about the ſame diſtance. This will be a ſufficient ſpace for a walk round, both to view the plants, proceed in their management, and afford a free paſſage for the air. The feet of this ſtand ſhould not be placed over the flues, nor too near the fire-place, to prevent its being dried ſo as to take fire, of which there have been inſtances. The ſhelves ſhould be broad enough to contain two or three rows each, eſpecially of the ſmaller pots; and the plants ſhould be diſpoſed according to their different heights: The ſmalleſt ſhould be in the front; and the others ſhould riſe gradually, until you arrive at the talleſt plants on the higheſt ſhelf in the back.

Thus will the plants be ſet off to great advantage, and diſplay thoſe charms the Almighty has adorned them with, to excite admiration, wonder, gratitude, and praiſe.

Of the General Diſpoſition of the Stoves and Green-houſe, and of Glaſſed Caſes for certain Plants.

It is not expected that every lover of Botany can poſſeſs himſelf of the number of Stoves erected according to the foregoing plan. His deſires muſt be limited by his fortune; and his thirſt after plants muſt be contracted by the prudent management of his income. One ſingle Green-houſe, or Stove, muſt be made to ſuffice for many a one who is perfectly ſkilled in the laws of the ſcience; and this alſo may admit of variation: It may be made ſmaller at pleaſure; and this every good Bricklayer and Carpenter will know how to manage, from the conſideration of the foregoing rules; ſo that a Gentleman of ſmall fortune need not deſpair of being poſſeſſed of ſuch agreeable company. He may indulge himſelf in his ſmall ſtove at a little expence (for the expence of firing is very trifling) with a ſelect number only of the choiceſt plants; whilſt the Stoves of great men, and thoſe for publick uſe, preſent the aſtoniſhed ſpectator with the chief produce of the whole globe.

When general collections are making, and a number of Stoves and Green-houſes are to be erected for the purpoſe, they may be built on the foregoing plans ſingly in different parts of the garden, to anſwer any intended purpoſes. But the beſt, the moſt convenient, the moſt delightful, and the moſt pompous way will be to build them all together, in a right line, one with another, on a riſing part of the ground open to the ſouth, that they may ſalute the country at as great diſtance as poſſible.

In this caſe, the Green-houſe ſhould be in the center; and it ſhould be elevated ſeveral yards above the common level, in proportion to the length the Stoves will form for the wings to join it. The general entrance ſhould be by double doors in the front, and a flight of ſtone ſteps ſhould lead up to it. The wings for the Green-houſe ſhould be a little lower; and on each ſide thoſe wings ſhould be the Stoves, gradually diminiſhing in height from the wings: We may ſuppoſe them to be four in number; and at the extremity of each of the outermoſt wings may be erected a Glaſs-caſe.

By erecting them in this manner, every thing will be convenient, and at hand. The happy poſſeſſor may regale himſelf and his friends with no inconſiderable walk, thro' the whole range of this curious workmanſhip; and he may indulge himſelf, in the different apartments, with the more nice obſervation of the different tender plants from the moſt diſtant countries; which cannot fail to lead to the moſt pleaſing reflections.

With regard to the general appearance of ſuch a building, how nobly muſt it look to the neighbouring country, if that be tolerably open! the grand Green-houſe, forming the higheſt building, in the center; the wings of the Green-houſe gradually diminiſhing; the two Stoves on each ſide thoſe wings, ſtill lower; and the Glaſſed Caſes at the ends proportionally lower than any part, and terminating the range. Perſons who are converſant with theſe things look upon them with pleaſure; but any ſtranger, who has never beheld a building of the like nature, is ſtruck with ſurprize and wonder. The glaſſy front is ſomething new; and the long range, and continuance of it, excites aſtoniſhment.

The glaſſed caſes are deſigned chiefly to contain ſuch plants as require a larger quantity of air than what is uſually to be had in the Green-houſe, and will live without any additional heat; and require protection only from froſts. Glaſſed caſes, therefore, for the abode of ſuch, are uſually erected when the collection of plants becomes general, and are uſually ſtationed at the ends of the Stove; one at the eaſt end, and another at the weſt. They have upright glaſſes in the front, ſloping glaſſes over head, and a ſtrong wall behind: In ſhort, they are the ſame with the Stoves, tho' ſmaller; neither have they any bark-bed. For the ſecurity of the plants, however, a flue is neceſſary to run under the floor, from the fire-place of the contiguous Stove, to be opened in very hard weather: The whole glaſs-work alſo muſt have ſhutters and cloths, to let down in bad weather, as for the Stoves; and theſe will afford protection enough for ſuch plants as may be ſtationed in theſe places called Glaſs-caſes.

Having thus finiſhed our Glaſs-caſes, our different apartments are fitted up, and are ready for the reception of the different tender plants from every quarter of the world.

C H A P. I.

ACHRAS, THE MAMMEE TREE.

THERE are three ſpecies of this genus, called,

Species. 1. The Mammee Tree.

2. *Sapota.*

3. Willow-leaved *Achras.*

Mammee Tree deſcribed. 1. The Mammee Tree. The trunk is upright, ſtraight, covered with an aſh-coloured bark, has numerous branches riſing from every ſide near the top, and in the Weſt-Indies the tree grows to be forty feet high. The leaves are very large, cuneiforme, ſpear-ſhaped, and of a ſhining-green colour. The flowers are produced ſingly from the wings of the leaves; they are of a cream colour, and are ſucceeded by large globular apples, of a very fine flavour.

Sapota deſcribed. 2. *Sapota.* This plant riſes with a ſtraight, upright trunk to forty or fifty feet high, and the branches are numerous and regular from every ſide near the top. The leaves are oval, oblong, ſmooth, and of a ruſſet-green colour on their under-ſide. The flowers are produced ſingly from the wings of the leaves, and are ſucceeded by large globular apples, of a rich and luſcious flavour.

Willow-leaved Achras deſcribed. 3. Willow-leaved *Achras*, in the Weſt-Indies, grows to near the height of the firſt ſort. The leaves are large, ſpear-ſhaped, oval, and of a moſt ſplendid green colour. The flowers come out in bunches along the ſides of the branches; they are of a pale yellow colour, and are ſucceeded by fine flavoured apples, like the former. Theſe fruit differ in ſize and goodneſs, the ſame as our apples do from one another: Some of them eat like marmalade of Quinces; others are ſtill more luſcious; and they are in ſuch high eſteem in the Weſt-Indies, that the trees are formed into orchards, as apple and cherry trees are with us, for the ſake of the fruit only.

Culture. Theſe ſpecies are propagated by the ſeeds, which may eaſily be procured from the Weſt-Indies. They ſhould be preſerved in the fruit, and boxed up in ſand to keep them freſh and good. On their arrival, they muſt be ſown in pots filled with the compoſt directed for Auriculas; but for want of that, rich mould from a well-ordered Kitchen-garden, with a fourth-part mixture of drift ſand, will do. Having ſown them, they muſt be plunged into a good hotbed of tanner's bark, and the mould muſt be frequently ſprinkled with water to keep it moiſt. In about ſix weeks, if the ſeeds were good, the plants will come up: The niceſt care due to the tendereſt ſeedlings muſt accompany them, until they are about four inches high, when they muſt be potted ſeparately, and plunged again into the hotbed. Here they muſt be ſhaded and watered at firſt, and afterwards muſt have more air, but ſhould never be wholly expoſed; and in the autumn, they muſt be taken into the warmeſt bark ſtove, where they may conſtantly remain, ſhifting them from time to time into larger pots, as often as they ſhall require it; affording them water at proper intervals, according to the different ſeaſons; granting them a due admiſſion of freſh air in ſummer; and in every reſpect managing them in a manner due to the tendereſt plants.

Titles. 1. The firſt ſpecies is titled, *Achras floribus ſolitariis, foliis cuneiformi-lanceolatis.* Lœfling calls it, ſimply, *Achras*; Plumier, *Sapota, fructu ovato majore*; Jacquin, *Sideroxylon inerme, calycibus decaphyllis*; Sloane, *Malus Perſica maxima, foliis magnis integris longis, fructu maximo oblongo ſcabro: oſſiculo partim rugoſo, partim glabro.* Plukenet, *Arbor Americana pomifera, frondoſis ramulis, foliis amplis longioribus obtuſis duris & venoſis, margine æquali*; Ray, *Fructus oblongus utrinque acuminatus ſ. conicus lævis ſplendens ſpadiceus*; and Brown, *Achras fructu elliptico ſcabro majori, floribus ſolitariis alaribus.* It grows naturally in America.

Mam=mosa.

2. The ſecond ſpecies is titled, *Achras floribus ſolitariis, foliis ovato-oblongis.* Plumier calls it, *Sapota fructu turbinato minori*; Brown, *Achras brachiatus diffuſus, fructu ſubrotundo cicatriculâ mucrone brevi*; alſo, *Achras caudice altiſſimo, fructu minore, ſemine mucronato*; and Sloane, *Anona foliis laurinis glabris viridi-fuſcis, fructu minore*; alſo, *Anona maxima, foliis laurinis glabris viridi-fuſcis, fructu minimo.* It grows naturally in America.

Sapota.

3. The third ſpecies is titled, *Achras floribus confertis, foliis lanceolato-ovatis.* Brown calls it, *Achras foliis oblongis nitidis utrinque productis, floribus confertis, faſciculis infra frondes ſparſis*; and Sloane, *Salicis folio lato ſplendente arbor, floribus parvis pallidè luteis pentapetalis e ramulorum lateribus confertim exeuntibus.* It grows naturally in America.

Salici=folia.

Claſs and Order in the Linnæan Syſtem. The characters. *Achras* is of the Claſs and Order *Hexandria Monogynia*; and the characters are,

1. Calyx is a perianthium compoſed of ſix oval, concave, erect leaves, the exterior ones being the broadeſt and ſhorteſt, and the interior ones coloured.

2. Corolla is one oval petal. It is the height of the calyx, and the limb is cut into ſix nearly oval plane ſegments, at the bottom of which are ſituated the like number of angular, patulous, indented ſcales.

3. Stamina are ſix ſhort, awl-ſhaped, inflexed filaments, with acute antheræ.

4. Pistillum conſiſts of a roundiſh, depreſſed germen, an awl-ſhaped ſtyle longer than the corolla, and an obtuſe ſtigma.

5. Pericarpium is a globular, ſoft, fleſhy apple, containing twelve cells.

6. Semina. The ſeeds are ſingle, oval, and gloſſy.

CHAP. II.

ACHYRANTHES.

THE different ſpecies of this genus are commonly known among gardeners by the reſpective names of,

Species.

1. Red *Verbena.*
2. Shrubby Indian Blite.
3. Spiked *Amaranthus.*
4. Indian Centaury.
5. Proſtrate *Achyranthes.*
6. Woolly *Chenopodium.*

Red Verbena, 1. Red *Verbena.* The ſtalk is upright, herbaceous, undivided, and grows to four or five feet high. The leaves are oval, entire, and grow oppoſite to each other on footſtalks. The flowers are produced in ſmooth ſpikes from the tops of the ſtalks; they appear in July, and are ſucceeded by ripe ſeeds in September.

Shrubby Indian Blite, 2. Shrubby Indian Blite. The ſtalk is woody, and divides into many branches, which ſpread themſelves every way. The leaves are oval, naked, entire, and grow alternately on footſtalks. The flowers come out from the tops of the ſtalks in oval ſpikes; they ſhew themſelves in July, and the ſeeds ripen in the autumn.

Spiked Amaranthus, 3. Spiked *Amaranthus.* The ſtalk is erect, and near three feet high. The leaves are oblong, obtuſe, large, of a thickiſh conſiſtence, and often waved on their edges. The flowers are produced from the ends of the branches in long ſpikes; they appear in July, and the ſeeds ripen in September.

Indian Centaury 4. Indian Centaury. The ſtalk is upright, tender, and divides into ſeveral ſpreading branches. The leaves are like thoſe of Enchanters Night-ſhade, but of a firmer ſubſtance, and a good green colour. The flowers come out from the ends of the branches in interrupted ſpikes; they are of a purple colour, and guarded by hooked briſtles, in the manner of the Bur; they appear in July, and the ſeeds ripen in September.

Proſtrate Achyranthes, 5. Proſtrate *Achyranthes.* The ſtalks are ſpreading, of a dark purple colour, hairy, lie on the ground, and ſtrike root at the joints. The leaves are oval, a little hairy, acute, and grow oppoſite to each other on ſhort footſtalks. The flowers are produced in oblong ſpikes from the ends of the ſtalks; they are of a greeniſh colour tipped with purple, appear in July and Auguſt, and the ſeeds ripen in the autumn.

and Woolly Chenopodium deſcribed. 6. Woolly *Chenopodium.* The ſtalks are woolly, and unleſs ſupported lie on the ground. The leaves are of different ſizes, woolly, and grow oppoſite to each other. The flowers are produced in oval ſpikes, from the ſides of the upper parts of the ſtalks; they are of a white colour, appear in July and Auguſt, and the ſeeds ripen in the autumn.

Culture. Theſe ſorts are raiſed by ſowing the ſeeds in April on a gentle hotbed. When the plants are about three or four inches high, let each be ſet in a ſeparate pot, and let them be plunged again into the hotbed, and watered and ſhaded until they have taken root. After that harden them by degrees to the air, and in the autumn take them into the cooleſt Stove: The ſummer following, they will flower and perfect their ſeeds.

Titles. 1. The firſt ſpecies is titled, *Achyranthes caule erecto ſimpliciſſimo, ſpicis brachiatis lævibus.* Rumphius calls it, *Verbena rubra.* It grows naturally in India. Sanguinolenta.

2. The ſecond ſpecies is titled, *Achyranthes caule patulo, floribus ſpicatis remotis ovatis, calycibus ſquarroſo-patulis, foliis alternis.* Rumphius calls it, *Blitum fruteſcens.* It grows naturally in India. Muricata.

3. The third ſpecies is titled, *Achyranthes caule erecto, calycibus reflexis ſpicæ adpreſſis.* In the *Hortus Cliffort.* it is termed, *Achyranthes caule erecto.* Burman calls it, *Amaranthus ſpicatis Zeylanicus, foliis obtuſis, Amarantho Siculo Bocconi ſimilis.* It grows naturally in Ceylon and Jamaica. Aspera.

4. The fourth ſpecies is titled, *Achyranthes caule patulo, ſpicis interruptis: floſculis ternis: lateralibus utrinque faſciculo ſetarum uncinato.* In the former edition of the *Species Plantarum* it is termed, *Achyranthes caule erecto, ſpicâ interruptâ, floribus externè lanatis.* Plukenet calls it, *Centaurium ciliare minus, circææ foliis firmioribus, ſpicatis floribus.* It grows naturally in India. Lappacea.

5. The fifth ſpecies is titled, *Achyranthes caulibus proſtratis, ſpicis oblongis: floſculis binatis utrinque faſciculo ſetarum uncinato.* Rumphius calls it, *Auris canina femina.* It grows naturally in India. Prostrata.

6. The ſixth ſpecies is titled, *Achyranthes caule proſtrato, ſpicis ovatis lateralibus, calycibus tomentoſis.* Burman calls it, *Chenopodium incanum racemoſum, folio majore minori oppoſito;* and Plukenet, *Amaranthus Indicus verticillatus albus, foliis lanugine incanus.* It grows naturally in India. Lanata.

Claſs and Order in the Linnæan Syſtem. *Achyranthes* is of the Claſs and Order *Pentandria Monogynia*; and the characters are,

The characters.

1. Calyx is a perianthium compoſed of three ſpear-ſhaped, acute, permanent leaves.
2. Corolla is five calyciforme, permanent petals. The nectarium is bearded at the top, and conſiſts of five valves ſurrounding the germen.
3. Stamina are five filiforme filaments the length of the corolla, having oval, incumbent antheræ.
4. Pistillum conſiſts of a turbinated germen, a filiforme ſtyle the length of the ſtamina, and an obtuſe, hairy ſtigma.
5. Pericarpium is a roundiſh, cloſed capſule, containing one cell.
6. Semen. The ſeed is ſingle, and roundiſh.

CHAP. III.

ADANSONIA, ÆGYPTIAN SOUR GOURD.

THERE is only one ſpecies of this genus, called, Ægyptian Sour Gourd.

The plant deſcribed.

The ſtem is large, woody, ſoft, erect, twenty feet high, ſwelling near the root, and divides into many branches near the top. The lower leaves are for the moſt part ſimple; but thoſe on the upper parts of the branches conſiſt of three or five lobes, ſpreading in a hand-like manner. The flowers are produced from the ends and ſides of the branches, and are ſucceeded by very large, oval, ligneous capſules containing the ſeeds, which ſeldom ripen in England.

This is a very tender tree, which ſeldom flowers, and never produces ripe fruit in England. The ſeeds, therefore, for its propagation muſt be procured from the places where it naturally grows.

Culture.

Having procured the ſeeds, ſow them in pots filled with light, ſandy, but rich earth, and plunge them up to the rims in a bark-bed. When they come up, draw out the weakeſt where they are too cloſe; and when they are about four inches high, let each be ſet in a ſeparate pot filled with the like kind of rich, light earth. Plunge them again into the bark-bed, and water and ſhade them until they have taken root. After this give them more air; but be careful leſt you over-water theſe plants, for that is apt to rot their tender ſtems when young; and early in the autumn take them into the warmeſt Stove, plunging them into a bark-bed there. Let them from time to time be ſhifted into larger pots, as they ſhall require it; keep them conſtantly in the Stove; and let them have the management adapted to the moſt delicate and tender plants.

Titles. Bahobab.

There being no other ſpecies of this genus, it is named ſimply, *Adanſonia.* Alpinus calls it, *Baobab*; Caſpar Bauhine, *Abavo arbor, radice tuberoſâ*; and John Bauhine, *Baobab, ſ. Abavi*; alſo, *Guanabanus Scaligeri.* It grows naturally in Ægypt and Senegal.

Claſs and Order in the Linnæan Syſtem. The characters.

Adanſonia is of the Claſs and Order *Monadelphia Polyandria*; and the characters are,

1. Calyx is a monophyllous, cyathiforme, deciduous perianthium, cut into five revoluted ſegments.

2. Corolla is five roundiſh, nervoſe, revoluted petals.

3. Stamina are numerous filaments which coaleſce at their baſe, but ſpread themſelves every way near the top, having kidney-ſhaped, incumbent antheræ.

4. Pistillum conſiſts of an oval germen, and a very long, tubular, intorted ſtyle, with many priſmatical, hairy, radiated, patent ſtigmas.

5. Pericarpium is an oval, ligneous, cloſed capſule, containing ten cells.

6. Semina. The ſeeds are numerous, reniforme, nearly oſſeous, and lodged in the pulp.

* * *

CHAP. IV.

ADENANTHERA, BASTARD FLOWER-FENCE.

THIS genus conſiſts of two diſtinct ſpecies, called,

Species.

1. Smooth-leaved Baſtard Flower-fence.
2. Downy-leaved Baſtard Flower-fence.

Smooth-leaved

1. Smooth-leaved Baſtard Flower-fence. The ſtem is woody, branching, and covered with a brown bark. The leaves are large, and doublywinged; and the pinnæ, which are of an oval figure, and of a deep-green colour on both ſides, are arranged alternately along the midrib. The flowers are ſmall, bell-ſhaped, and ſucceeded by long, compreſſed pods, containing ſeveral roundiſh ſeeds, of a gloſſy-black colour when ripe.

and Downy-leaved Baſtard Flower-fence deſcribed.

2. Downy-leaved Baſtard Flower-fence. The ſtem is woody, branching, and covered with a whitiſh bark. The leaves branch out into many diviſions, like thoſe of the former ſpecies; but they are white and downy on their under-ſides. The flowers come out from the ends and ſides of the branches, and are ſucceeded by long, compreſſed pods containing the ſeeds.

Culture.

Theſe plants are raiſed by ſowing the ſeeds on a hotbed in the ſpring. When the plants are about four inches high, each muſt be ſet in a ſeparate pot, be plunged up to the rims in a bark-bed, and watered and ſhaded until they have taken root. After this they muſt have more air, be taken into a good bark-ſtove in the autumn, and meet with treatment ſuitable to tender plants.

Titles. Pavonina. Falcataria.

1. The firſt ſpecies is titled, *Adenanthera foliis decompoſitis utrinque glabris.* In the *Hortus Cliffort.* it is termed, *Poinciana foliis duplicato-pinnatis: foliolis alternis.* Rumphius calls it, *Corallaria parvifolia.* It grows naturally in India.

2. The ſecond ſpecies is, *Adenanthera foliis decompoſitis, ſubtus tomentoſis.* Rumphius calls it, *Clypearia alba.* It grows naturally in India.

Claſs and Order in the Linnæan Syſtem. The characters.

Adenanthera is of the Claſs and Order *Decandria Monogynia*; and the characters are,

1. Calyx is a very ſmall, monophyllous perianthium, having five indentures at the top.

2. Corolla is bell-ſhaped, and compoſed of five ſpear-ſhaped, ſeſſile petals, which are concave near the baſe.

3. Stamina are ten awl-ſhaped, erect filaments ſomewhat ſhorter than the corolla, having roundiſh, incumbent antheræ.

4. Pistillum conſiſts of an oblong, gibbous germen, an awl-ſhaped ſtyle the length of the ſtamina, and a ſimple ſtigma.

5. Pericarpium is a long, compreſſed, membranaceous pod.

6. Semina. The ſeeds are many, roundiſh, and remote.

CHAP.

CHAP. V.

ADONIS.

OF this genus there is one tender ſpecies, called, Æthiopian *Adonis*.

The plant deſcribed. The root is compoſed of numerous white fibres; and the leaves are compoſed of many parts, chiefly in the trifoliate way, and are of a dark-green colour. The folioles are of an oval figure, have their edges irregularly ſerrated; and their common footſtalk, which is of a whitiſh colour, is long, and tolerably firm for their ſupport. The ſtalk is round, firm, ſends forth many ſmaller ſtalks that produce the flowers, and grows to about a yard high. The leaves are broad, and ſtand by threes towards the bottom; but at the top, or where the ſtalk branches out into ſmaller, they are narrow, and grow without any regularity or order. Theſe ſmall footſtalks branch out into others ſtill ſmaller, all of which are terminated by the flowers, which are of a pale-yellow colour, with a greeniſh tinge. Their petals, which ſtand open, are of an uncertain number, obtuſe, and their numerous ſtamina occupy the center. Their time of blow will vary according to their different management; but the uſual time of flowering is in June.

Culture. The culture is very eaſy; but the beſt plants are always raiſed from ſeeds. Theſe ſhould be ſown, in the ſpring, in pots filled with good light earth, and plunged into a bark-bed; where they will readily come up, if the ſeeds are good. When the plants are fit to remove, they muſt be potted ſeparately, and kept ſhaded until they have taken root; after which they muſt be uſed by degrees to the open air, and be then ſet abroad. In the autumn a ſhare of them may be taken into the Green-houſe with the moſt tender kinds of thoſe plants; but as they thrive beſt in a temperate Stove, their ſituation ſhould be conſidered accordingly, if there is that convenience.

Titles. Capensis. This ſpecies is titled, *Adonis fructibus depreſſis, foliis duplicato-ternatis ovatis ſerratis.* Burman calls it, *Actæa trifoliata hirſuta, foliis ſcabris, flore ſulphureo rariore*; Boerhaave, *Chriſtophoreana Africana ranunculoides, foliis rigidis*; Commeline, *Ranunculus Æthiopicus, foliis rigidis, floribus ex luteo-vireſcentibus*; and Plukenet, *Imperatoria ranunculoides Africana enneaphyllos, laſerpitii lobatis foliis rigidis margine ſpinoſis.* It grows naturally at the Cape of Good Hope.

CHAP. VI.

ÆSCHYNOMENE, BASTARD SENSITIVE PLANT.

THE following ſpecies ſhould be ſtationed in the Stove, viz.

Species.
1. Ægyptian Baſtard Senſitive Plant.
2. Tree Baſtard Senſitive Plant.
3. Grand-flowered Baſtard Senſitive Plant.

Ægyptian 1. Ægyptian Baſtard Senſitive Plant. The ſtalk is herbaceous, ſmooth, branching, and about three feet high. The leaves are pinnated, being compoſed of many ſmooth, obtuſe pinnæ, which are arranged oppoſite to each other along the midrib. The flowers come out on footſtalks from the wings of the leaves; they are of a deep yellow colour, appear in July, and are ſucceeded by cylindrical, jointed pods, containing ripe ſeeds in the autumn.

Tree, 2. Tree Baſtard Senſitive Plant. The ſtem is woody, ſingle, ſmooth, and eight or ten feet high. The leaves are pinnated, the pinnæ being numerous, ſmooth, and arranged alternately. The flowers come out, two or three together, on footſtalks, from the wings of the leaves; they are large, of a copper-colour, appear in July, and the ſeeds ripen in the autumn.

and Grand-flowered Baſtard Senſitive Plant deſcribed. 3. Grand-flowered Baſtard Senſitive Plant. The ſtem is woody, robuſt, and ſeven or eight feet high. The leaves are pinnated and obtuſe. The flowers come out on footſtalks from the wings of the leaves; they are remarkably large and beautiful, appear in July, and the ſeeds ripen in the autumn.

Culture. Theſe plants are raiſed by ſowing the ſeeds on a hotbed, like the Annuals of this genus; but they ſhould be ſown late in the ſpring. They muſt be ſhifted, like them, into pots, as they increaſe in ſize, and early in the autumn be taken into a good Stove, plunging the pots into the tan-bed there. During the winter they muſt have little or no water, which is too frequently deſtructive to theſe plants at that ſeaſon; but muſt have it in ſmall quantities, as the weather gets warm, the ſummer following. About July, or ſometimes earlier, they will exhibit their bloom, and the ſeeds frequently ripen in September or October.

Titles. Sesban. 1. The firſt ſpecies is titled, *Æſchynomene caule herbaceo lævi, foliolis obtuſis, leguminibus cylindricis æqualibus.* Caſpar Bauhine calls it, *Galega Ægyptiaca, ſiliquis articulatis*; and Alpinus, *Seſban.* It grows naturally in the hedges of Ægypt.

Arborea. 2. The ſecond ſpecies is titled, *Æſchynomene caule arboreo lævi, leguminum articulis ſemicordatis glabris.* It grows naturally in India.

Grandiflora. 3. The third ſpecies is titled, *Æſchynomene caule arboreo, floribus maximis, leguminibus filiformibus.* In the former edition of the *Species Plantarum* it is termed, *Robinia pedunculis ſubdiviſis, foliis pinnatis, floribus folio majoribus.* Breynius calls it, *Seſban affinis arbor Indiæ Orientalis*; and Ray, *Galegæ affinis Malabarica arboreſcens, ſiliquis majoribus umbellatis.* It grows naturally in India.

C H A P. VII.

AGAVE, AMERICAN ALOE.

THE following ſpecies are of a more tender nature than, and of inferior beauty to, the Great American Aloes in the Green-houſe, viz.

Species.

1. Viviparous American Aloe.
2. Stinking American Aloe.

Viviparous

1. Viviparous American Aloe. The leaves of this ſpecies are indented on their edges, and each of them is terminated by a ſlender, ſharp ſpine; they are moſtly reflexed backwards towards the extremity, are of a dark-green colour, and grow to about a foot and a half long. The flower-ſtalk riſes to about ten or twelve feet high, and ſends forth ſeveral ſpreading branches near the top: Theſe ſupport the flowers, which are of a greeniſh-yellow colour; and, what is wonderful, inſtead of ſeed-veſſels, which in the common courſe of nature follow the flowers, thoſe of this ſpecies are ſucceeded by young plants, which occupy the branches in plenty after the flowers are fallen.

and Stinking American Aloe deſcribed.

2. Stinking American Aloe. The root is very thick, and fleſhy. The leaves are ſtiff, free from indentures, and grow to about a yard long. The outer leaves ſpread open, and the central ones cloſely fold over each other: Their edges are ſometimes ſlightly waved; their colour is a pale-green; and they are very ſtrongly and diſagreeably ſcented. The flower-ſtalk grows to ſixteen or eighteen feet high, branches out horizontally near the top, and forms a kind of pyramidical head. The branches are cloſely garniſhed with flowers of a greeniſh-yellow colour, and are ſucceeded, not by ſeed-veſſels, but by young plants, like thoſe of the former ſpecies.

Varieties deſcribed.

There are two or three notable varieties of this ſpecies; one of which is called, The Smaller Stinking Aloe; and another, The Glaucous-leaved Stinking Aloe. The leaves of the firſt ſort are indented, prickly, and of a dark-green colour; and the roots are very large, fleſhy, and ſwell above the mould in the pots. The leaves of the other ſort are of a glaucous colour, two feet long, ſtiff, narrow, and each of them ends in a black ſpine. Their manner of flowering is alike in all; and all are ſucceeded by young plants inſtead of ſeeds.

Culture.

All theſe Aloes are propagated by the young plants which ſucceed the flowers; for they never put out any offsets. They are generally in blow in winter; and after the flowers are fallen, the plants ſhew themſelves in their room on the branches; they arrive gradually at maturity, and, like full-ripe fruit, fall to the ground. As they lie on the ſurface of the earth they will ſtrike root, and without any trouble become good plants; ſo that when they fall, nothing more need be done than to ſtation them ſeparately in ſmall pots filled with light, ſandy earth. Their ſituation muſt now be in the cooleſt Stove, as they only require a ſmall degree of warmth; and in this they ſhould remain all ſummer, for they do not thrive well in the open air. In hot weather they muſt be frequently and duly watered, but in a ſmall quantity at a time; for too much moiſture is apt to rot the roots; and in winter they muſt have very little water, except when they ſhoot up for flowering; at which time they ſhould have it twice a week. They muſt be ſhifted every year into pots of a larger ſize, for the ſake of freſh mould to the roots; and this is the courſe of their management until they come to flower, and produce freſh plants from the branches. All theſe ſorts never flower but once; they always die ſoon after they have exhibited their bloom, and the plants fall off from the branches.

Titles.

1. Viviparous American Aloe is titled, *Agave foliis dentatis, ſtaminibus corollam æquantibus.* Commeline calls it, *Aloe Americana polygona*; Rumphius, *Aloe Americana*; and Herman, *Aloe Americana ſobolifera.* It grows naturally in America.

Vivipara.

2. Stinking American Aloe is titled, *Agave foliis integerrimis.* In the *Hortus Cliffort.* it is termed, *Aloë foliis integerrimis patentiuſculis aculeo terminatis, radice cauleſcente.* Commeline calls it, *Aloë Americana, viridi rigidiſſimo & fœtido folio, Piet dicta indigenis*; and Plukenet, *Aloë Americana, radice tuberoſâ, minor.* It grows naturally in Curaſſao.

Fœtida.

C H A P. VIII.

A L E T R I S.

THIS genus adds to our collection in this place,

Species.

1. Hyacinthoide *Aletris.*
2. Cape *Aletris.*
3. Sweet-ſcented *Aletris.*

Hyacinthoide Aletris deſcribed.

1. Hyacinthoide *Aletris.* This plant hath a large, knobbed root, which ſends forth ſeveral ſpear-ſhaped, fleſhy leaves. Among theſe riſes the flower-ſtalk, which is upright, firm, and grows to about a foot and a half high. The flowers are arranged along the top of it in two ſeries; they are funnel-ſhaped, ſit cloſe, and, on the whole, have very much the appearance of an Hyacinth.

This ſpecies comprehends two notable varieties in our Stove, called,

The Guinea Aloe.

The Ceylon Aloe.

Varieties deſcribed.

The Guinea Aloe has large, ſpreading, fleſhy, knobbed roots, which ſend forth many ſpear-ſhaped, waved leaves: Theſe grow to about a foot and a half long, and their general colour is a dark-green; but they are beautifully mottled or variegated with white. Among theſe the flower-ſtalk riſes to about two feet high. The flowers are cloſely arranged along the top of it, are of a white colour, tubulous, and have very much the appearance of an Hyacinth.

Ceylon Aloe deſcribed. The Ceylon Aloe. The roots of this ſort are fleſhy and ſpreading. The leaves are of different ſizes; ſome being broad, ſpear-ſhaped, and about nine inches long; while others are narrow, awl-ſhaped, and of greater length: Among theſe the flower-ſtalk riſes, along the upper part of which the florets are arranged in the Hyacinth manner.

Cape, 2. Cape *Aletris*. The leaves of this ſpecies are ſpear-ſhaped, and waved on their edges. The ſtalk ariſes immediately from the root. The upper part of it is adorned with the flowers, which are placed nodding, and form a cloſe, oval ſpike.

and Sweet-ſcented Aletris deſcribed. 3. Sweet-ſcented *Aletris*. This hath a woody, thickiſh ſtalk, adorned with a few ſpear-ſhaped leaves. The flowers are white, tubulous, deeply cut at the brim, and are remarkably fragrant.

Culture. The Cape *Aletris* and the Hyacinthoide, with its varieties the Guinea and Ceylon Aloes, are eaſily propagated by offſets from the roots. Theſe ſhould be taken off the end of July, or early in Auguſt, and ſhould be planted, when the wounded parts are ſkinned over, in ſmall pots, filled with light, rich, ſandy earth, ſuch as has been recommended for the Aloes: They ſhould be then plunged into a moderate hotbed, ſhould be ſhaded and frequently watered, and in September may be removed into the ſtove. They only require a ſmall ſhare of heat in winter, to keep them in good order; they muſt therefore be placed in the cooleſt ſtove, and muſt be watered once a week. The ſummer following they will require to be ſhifted into pots a ſize larger, the beſt ſeaſon for which work is in July: They will never require very large pots; but the work ſhould be repeated every year, for the ſake of adding freſh mould to the roots; and at every ſhifting it would be proper to pare away as much of the old earth as poſſible without diſturbing the roots, to give them a good watering, and a moderate degree of heat. Here they may ſtand for about three weeks, when they may be removed into the glaſs caſe or Green-houſe, that they may have as much free air as poſſible, and be ſtill protected from too much moiſture by heavy rains the remaining part of the ſummer; and about the end of September, they ſhould be removed into the Stove as before.

The Sweet-ſcented *Aletris* is propagated by the cuttings; which, if planted and managed in the like manner, will readily ſtrike root, and ſoon become good plants. The ſituation of this alſo muſt be in the cooleſt Stove.

Titles. 1. Hyacinthoide *Aletris* is titled, *Aletris acaulis, foliis lanceolatis carnoſis, floribus geminatis.* Hyacintho= =ides. In the former edition of the *Species Plantarum* it is termed, *Aloe floribus ſeſſilibus horizontalibus infundibuliformibus æqualibus limbo revolutis*; and in the *Hortus Cliffort. Aloe foliis lanceolatis planis rectis radicalibus.* Commeline calls the Guinea Aloe, *Aloe Guineenſis, radice geniculatâ, foliis e viridi & atro undulatim variegatis*; Guineensis B and the Ceylon Aloe, *Aloe Zeylanica pumila, foliis variegatis.* Zeylanica a. Van Royen calls it, *Aloe foliis exterioribus lanceolatis planis erectis radicalibus, interioribus longiſſimis ſubulatis arcuatis.* The one grows naturally in Guinea, the other in Ceylon.

2. Cape *Aletris* is titled, *Aletris acaulis, foliis lanceolatis undulatis, ſpicâ ovatâ, floribus nutantibus.* Capensis. It grows naturally at the Cape of Good Hope.

3. Sweet-ſcented *Aletris* is titled, *Aletris cauleſcens, foliis lanceolatis laxis.* Fragrans Commeline calls it, *Aloe Africana arboreſcens, floribus albicantibus fragrantiſſimis.* It grows naturally in Africa.

CHAP. IX.

ALOE.

THE ſpecies of this genus which moſt requires a ſtove in winter, is uſually called the Viſcous Aloe.

The plant deſcribed. The leaves are triangular, and alſo grow in form of a triangle; they are channelled, lie over each other *imbricatim*, are of a dark-green colour, and are poſſeſſed of a viſcous, or clammy matter. The ſtalk riſes to about a foot high. The flowers have hardly any footſtalks, grow thinly in the ſpike, and their colour is a bad green.

Culture. The propagation of this ſort is the ſame as the Green-houſe Aloes, only it muſt have a moderate warmth in winter; its ſtation therefore muſt be in the cooleſt Stove, and with it alſo let be brought the Succotrine and the Hepatic Aloes. The Sword Aloe alſo, unleſs it be ſtationed in the like manner, can rarely be brought to flower well.

Titles. The Viſcous Aloe is titled, *Aloe floribus ſeſſilibus infundibuliformibus bilabiatis, laciniis quinquerevolutis, ſummâ erectâ.* Viscosa. In the *Hortus Cliffort.* it is termed, *Aloe foliis canaliculatis trifariam imbricatis, caulinis apice reflexo-patulis.* Commeline calls it, *Aloe Africana erecta triangularis, & triangulari folio viſcoſo.* It grows naturally in the plains of Æthiopia.

CHAP.

C H A P. X.

ALPINIA.

THERE is only one ſpecies of this genus, called, *Alpinia*.

The plant deſcribed.

The radical leaves are numerous, like thoſe of the Indian Flowering Reed, and die to the ground every autumn. The ſtalk is tender, round, moderately thick, and about a foot high. The flowers come out in looſe ſpikes from the tops of the ſtalks; they are of a white colour, appear in July and Auguſt, but the ſeeds ſeldom ripen in England.

Culture.

This plant is propagated by parting of the roots; the beſt time for which is in the autumn, when the leaves decay. They muſt be planted in pots filled with light, ſandy but rich earth, and kept conſtantly in a good bark ſtove. In the ſpring, when their leaves ariſe, they muſt be frequently watered, and as the hot weather advances, muſt have plenty of air; but in winter they muſt have little or no water, as it is apt to rot their roots, when in that unactive ſtate.

Titles.

Racemosa

There being no other ſpecies of this genus, it is named ſimply, *Alpinia*. Plumier calls it, *Alpinia racemoſa alba, cannacori foliis*; and Sloane, *Zingiber ſylveſtris minus, fructu e caulium ſummitate*. It grows naturally in the Weſt Indies.

Claſs and Order in the Linnæan Syſtem. The characters.

Alpinia is of the Claſs and Order *Monandria Monogynia*; and the characters are,

1. CALYX is a ſmall trifid perianthium, placed above the germen.

2. COROLLA is one unequal, and as it were duplicated petal; the exterior is trifid, the upper ſegment being concave, the two ſide-ones plane; the interior has a bellied baſe, and a trifid limb, the lower ſegment being extended beyond the lateral diviſions of the exterior corolla, and the others emarginated.

3. STAMINA conſiſt of one filament, much reſembling the ſegment of the interior corolla, having a linear anthera affixed to its edge.

4. PISTILLUM conſiſts of a roundiſh germen ſituated below the calyx, a ſimple ſtyle, and an obtuſe, trigonal ſtigma.

5. PERICARPIUM is a fleſhy, oval capſule, formed of three valves, and containing three cells.

6. SEMINA. The ſeeds are many and oval, having a caudated baſe, and a prominent, truncated top.

The receptacle is pulpy, and very large.

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C H A P. XI.

AMARYLLIS, LILY-DAFFODIL.

SOME ſpecies of the *Amaryllis* are tolerably hardy, and accordingly have been treated of as ſuch; and there are few of them that may not be kept alive in the Green-houſe, or under a hot-bed frame, or even in a warm, ſandy border, well protected; but theſe, notwithſtanding, will be very weak, and the flowers poor, and of inferior value to what their nature is inclined to ſhew. In order therefore to have them in perfection, they muſt be aſſiſted by the warmth of the Stove; and the plants which do beſt with this management are,

Species.

1. *Jacobæa* Lily.
2. *Belladonna* Lily.
3. Long-leaved African Lily.
4. Scarlet African Lily.
5. Red Indian Lily.
6. Purple Æthiopian Lily.
7. Mexican Lily.
8. Zeylon Lily.

Jacobæa and Belladonna Lily deſcribed.

1. *Jacobæa* Lily is of the firſt eſteem among the ſpecies of *Amaryllis*. The root is a large, roundiſh bulb, covered with a blackiſh coat. The leaves are of an oblong figure, of a thick conſiſtence, and of a fine deep-green colour. The ſtalk will riſe to about a foot high; it is round and naked, tinged with a delicate red colour, grows from the ſide of the bulb, and when it has performed its office, the next that appears is on the other ſide of the bulb; and thus is the ſucceſſion continued in that alternate way. At the top of the ſtalk appears the ſpatha, which while cloſed is of a beautiful red colour; but when the ſtalk is arrived to nearly its full height, it burſts ſideways, and withers ſoon after. From this opening proceeds a ſingle flower, which is large, and of a moſt beautiful ſcarlet colour: It is in a drooping, or nodding poſture, but in ſuch manner as to cauſe it to have the beſt effect. The petals are broad; the three under ones are pendent; two of them are nearly horizontal, and the upper one is almoſt erect: They receive additional beauty from their ſtamina, the filaments being of a fine crimſon colour, and the antheræ yellow; and variety is ſtill occaſioned by the ſtyle, which is of a pale red colour. Its time of flowering is uncertain, and will be according to the ſtrength of the bulb; ſo that if a perſon has plenty of theſe roots, he may have them in flower almoſt all ſeaſons of the year in his Stove.

2. *Belladonna* Lily is alſo a flower of the higheſt eſteem. The root is a large bulb, covered with a pale-brown bark. The leaves are long, narrow, and of a lively green colour. The flower-ſtalk, from a ſtrong bulb, will grow to be upwards of two feet high; it is round and upright, firm and juicy; and its colour is a browniſh red tinged a little with purple: The ſpatha is red and withering; and from this proceed the flowers, many of which grow from the top of the ſtalk, uſually about ſeven or eight in number; they are about the ſize, and are ſhaped very much like thoſe of the common Red Lily;

their colour is a reddiſh purple; but they are whitiſh within-ſide, and are poſſeſſed of an agreeable fragrance, which makes them ſtill more valuable. It uſually flowers with us in October, and is in much eſteem in Portugal, Italy, and Spain. In all thoſe places it is propagated in great plenty, and the flowers are ſold in the markets: They are chiefly purchaſed to adorn churches, chapels, and religious houſes, which in thoſe countries are ſeldom deſtitute of flowers at any time of the year they can be procured.

Long-leaved African, 3. Long-leaved African Lily. This alſo is a beautiful ſpecies. The bulb is ſmall, and of a light-brown colour. The leaves are long, narrow, and of a bright-green colour. The ſtalk is ſhort, naked, and compreſſed. From the ſpatha proceed many flowers; their petals are uniform, and form the appearance of a campanulated flower; their colour is purple, and the parts of generation are declined. It flowers in the ſtove in winter; which enhances the value of this plant.

Scarlet African, 4. Scarlet African Lily. This hath a long, ſmall bulb; and from this iſſue ſeveral long, narrow, ſpotted, ciliated leaves. The ſtalk is naked, moderately long, and firm, and from the ſpatha proceed many flowers; their petals turn back in the manner of the Guernſey Lily; they are of a beautiful red colour, much inclined to ſcarlet, and make a fine appearance when they ſhew themſelves. This with us is but rare; which makes the culture of this ſpecies the leſs deſirable.

Red Indian, 5. Red Indian Lily. This hath a round, large, browniſh bulb, from which iſſues the flower-ſtalk before the leaves appear. The leaves are long, and moderately broad; their ends are rounded, and they lie flat on the ground. The flower-ſtalk will grow to about a foot in height, and ſupports ſeveral flowers; it is flatted, very thick and firm, and tinged with a red colour. The ſpatha is large, oblong, and pointed, and at firſt is delicately ſtained with a purpliſh-red colour; it is for a long while entire, during which time it retains this colour; afterwards it burſts to diſcloſe the flower-buds, ſoon after which it loſes its colour, and becomes withering. The flowers that iſſue from this ſpatha are many, and are collected into a kind of ſpherical head; each flower has its ſeparate footſtalk, about three inches long, flatted, and tinged with red, like the main-ſtalk. The flowers themſelves are large, and their figure is irregular; five of the petals turning inwards, whilſt the ſixth, ſeparating from them, ſtands outward; their colour is a bright crimſon, and they will be in blow in July or Auguſt. After the flowers are over, the green leaves appear, which will continue to grow all winter until about May, when they begin to decay.

Purple Æthiopian, 6. Purple Æthiopian Lily. This hath a large roundiſh bulb, covered with a duſky-yellow-coloured ſkin. The leaves are long, and ſharp-pointed; they are marked with ſtrong veins lengthways, are of a pale-green colour, and ſpread themſelves irregularly on the ground. The ſtalk will riſe to half a foot, or more, in height; it is thick, firm, and flatted, of a pale-green colour, and often ſtained with red. From the ſpatha proceeds a large head of flowers: Theſe grow in a conical form, and twenty of them, or more in number, compoſe the figure; they are large, and when full blown are of a fine purple colour. But what makes this ſort ſtill more valuable is its fragrance, which diffuſes itſelf even to a diſtance, and affords ſtill more pleaſure to thoſe who are intent on its beauties. It uſually flowers in September or October. The flowers are regular; each of them is compoſed of ſix lanceolated petals, which are of the ſame ſize, and open equally every way: This ſhews it to be a diſtinct ſpecies from the former, though Linnæus has not named it; neither does it appear that he was ever acquainted with it.

Mexican, 7. Mexican Lily. This plant hath a large, yellowiſh bulb, from which iſſue ſome large, broad leaves: Theſe are of an oblong figure, are obtuſe, and have longitudinal veins, which are a little tinged with red. The ſtalk is thick, round, firm, and riſes to about a foot in height. From the ſpatha iſſue three or four flowers, on ſtrong footſtalks; they are large, and of a fine red colour. It flowers in February, March, or April; and the warmer the Stove is, the earlier will the flowers ſhew themſelves to perfection; ſo that to have them forward at a moſt deſirable ſeaſon, its ſituation ſhould be in the bark-bed, plunged up to the rim, in a warm Stove.

and Zeylon Lily deſcribed. 8. Zeylon Lily. This plant is called by ſome the Striped *Amaryllis*; and every one who is acquainted with it, knows the excellencies which recommend it. The root is an oblong, whitiſh bulb. The leaves are large, broad, long, and of a fine green colour. The flower-ſtalk will grow to near two feet in height; it riſes from the ſide of the leaves, and is upright, firm, roundiſh, double-edged, and ſtained with a purple caſt. The ſpatha is ſmall, and of a purpliſh colour at firſt; but after it has diſcloſed its flowers, hangs withering in a worn-out, tottering manner. The flowers are ſix or eight in number, and grow on ſlender footſtalks from the top of the main ſtem. They are of a pure white colour within, but their outſide is not of ſo clear a colour. They are ſtriped with purple; in ſome of the petals the ſtreaks are faint, in others ſtronger; and their ends are often tipped with the like Tyrian hue; in ſhort, it diſplays great beauty to the eye. But that is not all: It has likewiſe a great ſhare of fragrance to regale the ſenſe of ſmelling. With this it will treat you in plenty; and this, tho' powerful, is not overbearing, but entirely agreeable and inoffenſive. This ſpecies will flower in June and July, and often again in November; nay, if it has its ſituation in a warm Stove, you may be pretty ſure of finding the ſame bulb treating you with its delightful produce twice a year.

Culture. All theſe ſorts are propagated by the bulbs, and are encreaſed by their offſets. The roots are frequently ſent us from the places where they naturally grow; and theſe ſhould be planted in pots, as ſoon as they arrive. The Auricula compoſt, with an addition of a third part more of drift ſand, is very proper for their reception. Plant a ſingle bulb therefore in each pot, filled with this compoſt; and let it be ſet ſo low, that about an inch of mould may be above the top of the bulb. Set them in the Stove, and now and then give them a little water that has been in the Stove to ſoften: And here they will grow, and flower perhaps with as great luſtre as they do in their own countries.

They all encreaſe by offſets, tho' ſome of them faſter than the others; and when a plant is found to have many offſets, let it be taken up and divided. The time for this ſhould be when the leaves are decayed, and before freſh fibres are ſtruck out from the bulbs: Theſe offſets ſhould be placed in the Stove, and they will be brought to flower ſooner. Every year the earth ſhould be cleared off from the top of the pots an inch or two deep, and freſh mould added from the compoſt; and the roots every three or four years ſhould be entirely taken up, cleaned and planted afreſh, whether they have any offsets or not: And this is the management of all the ſorts.

The two laſt, indeed, are tender, and more peculiarly require this treatment; and altho' the others may be kept alive, and even brought to flower in a Green-houſe, or under a hotbed frame, the flowers will be very trifling; they encreaſe by offsets very ſlow, and an unnatural appearance of the whole plant is exhibited. Miller directs the planting of ſome of theſe ſorts in beds, and covering them down from the froſts very deep with tanners bark; and in ſo doing, he ſays, they will ſhoot out more vigorouſly in the ſpring, and encreaſe by offsets in greater plenty. I have practiſed this method, and have always found the bulbs rotten in the ſpring; for tho' the bark may keep out the froſt, it will not the wet; nay, it retains the moiſture, and I always found the mould much ſodden by the preſſure of the covering and the retention of the wet, and the bulbs always deſtroyed; ſo that if Mr. Miller has practiſed this with ſucceſs, as he ſays he has, it muſt have been in a ſeaſon when little rain has happened.

Titles. Formosi= =sima. 1. *Jacobæa* Lily is titled, *Amaryllis ſpathâ uniflorâ, corollâ inæquali, petalis tribus genetalibuſque declinatis.* Dillenius calls it, *Lilio-Narciſſus Jacobæus, flore ſanguineo nutante.* It grows naturally in America.

Bella Donna. 2. *Belladonna* Lily. This is titled, *Amaryllis ſpathâ multiflorâ, corollis campanulatis æqualibus ungue reflexis, genetalibus declinatis.* Sloane calls it, *Lilio-Narciſſus polyanthos, flore incarnato: fundo ex luteo albeſcente.* It grows naturally in Surinam, Barbadoes, and the Caribbees.

Longifo= -lia. 3. Long-leaved African Lily. This is titled, *Amaryllis ſpathâ multiflorâ, corollis campanulatis æqualibus, genetalibus declinatis, ſcapo compreſſo longitudine umbellæ.* Herman calls it, *Lilium Africanum humile, longiſſimis foliis, polyanthos ſaturato colore purpuraſcens.* It is a native of Æthiopia.

Ciliaris. 4. Scarlet African Lily. This is titled, *Amaryllis ſpathâ multiflorâ, foliis ciliatis.* It grows naturally in Æthiopia.

Orienta= =lis. 5. Red Indian Lily. This is titled, *Amaryllis ſpathâ multiflorâ, corollis inæqualibus, foliis linguiformibus.* Moriſon calls it, *Lilio-Narciſſus Indicus maximus ſphæricus, floribus plurimis rubris liliaceis.* It grows naturally in India.

6. Purple Æthiopian Lily. Linnæus has not titled this plant; neither can I find that he means it as a variety of ſome other ſpecies. Dr. Hill has very properly named it, *Amaryllis ſpathâ multiflorâ, corollis æqualibus, foliis acuminatis.* Commeline calls it, *Lilio-Narciſſus Africanus platicaulos humilis flore purpuraſcente odorato.* It grows naturally in Æthiopia.

Reginæ. 7. Mexican Lily. This is titled, *Amaryllis ſpathâ multiflorâ, corollis campanulatis æqualibus undulatis, genetalibus declinatis.* Herman calls it, *Lilium Americanum, puniceo flore, Belladonna dictum.* It grows naturally in the Caribbee Iſlands.

Zeyla= =nica. 8. Zeylon Lily, or Striped *Amaryllis.* This is titled, *Amaryllis ſpathâ multiflorâ, corollis campanulatis æqualibus, genetalibus declinatis, ſcapo tereti ancipiti.* Commeline calls it, *Lilio-Narciſſus Zeylanicus latifolius, flore niveo externè lineâ purpureâ ſtriato.* It grows naturally in Ceylon.

CHAP. XII.

AMOMUM, GINGER.

THE diſtinct ſpecies of Ginger are,

Species.
1. Common Ginger.
2. Broad-leaved Wild Ginger.
3. Short-ſtalked Ginger.
4. Branching-ſtalked Ginger.

Common, 1. Common Ginger. The root is thick, jointed, ſpreading, and hot and fiery to the taſte. The ſtalk riſes in the ſpring to the height of two or three feet. The leaves are long, narrow, grow alternately, and embrace the ſtalk with their baſe. By the ſide of theſe, immediately from the root, ariſe the ſtems for the ſupport of the flowers; theſe are naked, round, thick, are a foot high, and the flowers crown the tops of them in oval ſpikes. The flowers are of a blue colour, appear in the autumn, ſoon after which the leaves and ſtems decay, and freſh ones ariſe in the ſpring.

The green roots of Ginger are ſaid to afford the fineſt ſweetmeat yet known; and the uſes of the dried roots for culinary and medicinal purpoſes are pretty well experienced.

Broad-leaved Wild; 2. Broad-leaved Wild Ginger. The roots are thick, jointed, creeping, and of a fiery, acrid taſte. The ſtalks grow to be three or four feet high. The leaves are oblong, grow alternately, and embrace the ſtalk with their baſe. The flower-ſtems are thick, round, and about a foot high. The flowers are produced from the tops of theſe ſtems in oblong, blunt, ſcaly ſpikes; they are of a white colour, appear in autumn, ſoon after which the leaves and ſtalks decay.

Short-ſtalked, 3. Short-ſtalked Ginger. The ſtalk is undivided, and ſeldom more than five or ſix inches high. The flowers come out from the tops of the ſtalks, attended by looſe bracteæ placed alternately; they appear in the autumn, and the ſtalks decay ſoon after.

and Branching-ſtalked Ginger deſcribed. 4. Branching-ſtalked Ginger. The ſtalk is very ſhort, thick, and branching. The flowers are produced from the ends of the branches in the autumn, ſoon after which the ſtalks decay, and freſh ones ariſe in the ſpring.

Culture. Theſe are propagated by parting of the roots, early in the ſpring before the leaves ariſe, and planting them in pots filled with light, ſandy, rich earth. This being done, they ſhould be plunged into the bark-bed, and have a very ſlight watering. When the leaves and ſtalks appear, watering muſt be conſtantly obſerved; and much air muſt be afforded them in hot weather. When the ſtalks decay in the autumn, watering muſt be diſcontinued for the winter, the roots remaining all that time in an unactive ſtate. If the offsets were not too ſmall at firſt, and the pots not too large, they may be expected to flower the ſecond or third year after planting.

Titles. 1. The firſt ſpecies is titled, *Amomum ſcapo nudo, ſpicâ ovatâ.* Rumphius calls it, *Zingiber majus*; and Caſpar Bauhine, *Zingiber.* It grows naturally in both the Indies.

Zingi=ber.

Zerum=bet.

2. The ſecond ſpecies is titled, *Amomum ſcapo nudo, ſpicâ oblongâ obtuſâ.* Herman calls it, *Zingiber latifolium ſylveſtre*; and Rumphius, *Lampujum.* It grows naturally in India.

Cardamom.

3. The third ſpecies is titled, *Amomum ſcapo ſimpliciſſimo breviſſimo, bracteis alternis laxis.* Rumphius calls it, *Cardamomum minus.* It grows naturally in India.

Grana Paradisi.

4. The fourth ſpecies is titled, *Amomum ſcapo ramoſo breviſſimo.* In the *Materia Medica* it is termed, *Amomum caule ramoſo.* Caſpar Bauhine calls it, *Grana paradiſi officinarum.* It grows naturally in Guinea and Madagaſcar.

Claſs and Order in the Linnæan Syſtem.

Amomum is of the Claſs and Order *Monandria Monogynia*; and the characters are,

The characters.

1. Calyx is an obſolete perianthium ſituated above the germen, and indented in three parts.

2. Corolla is one petal. The tube is ſhort. The limb is divided into three ſegments, the middle one being the largeſt.

The nectarium conſiſts of one leaf, which ſcarcely appears above the corolla, and is inſerted in the boſom of the greater ſegment.

3. Stamina conſiſt of one oblong filament, ſimilar to the ſegment of the petal, having an anthera growing to it.

4. Pistillum conſiſts of a roundiſh germen ſituated below the calyx, a filiforme ſtyle the length of the ſtamen, and an obtuſe ſtigma.

5. Pericarpium is coriaceous, ſuboval, trigonal, formed of three valves, and containing three cells.

6. Semina. The ſeeds are many.

CHAP. XIII.

ANACARDIUM, *ACAJOU*, or CASHEW-NUT.

THERE is only one ſpecies of this genus, namely, the Caſhew-Nut.

The plant deſcribed.

The ſtem is robuſt, divides into many ſpreading branches, is full of a milky juice, and grows to be twenty feet high. The leaves are large, nearly of an oval figure, ſmooth, tough, of a gloſſy green colour, and grow on ſhort footſtalks. The flowers come out in kind of umbels from the ends and ſides of the branches; and each is ſucceeded by a kidney-ſhaped nut nearly an inch long, containing an eſculent kernel, and ſituated on a large fleſhy receptacle as big as an Orange.

The receptacle contains a ſour juice, which is admirable for making of punch.

The root is ſmooth, and has a double ſhell, the interſtice between them containing a very cauſtic oily liquor; which ſhould caution all perſons from breaking theſe nuts with their teeth, that liquor often proving to the unwary very troubleſome and painful, by raiſing bliſters, &c. in the mouth.

Culture.

It is raiſed by planting the nuts ſingly in pots filled with light, ſandy earth. The pots muſt be plunged up to the rims in the bark-bed, and no water muſt be afforded them, which for the moſt part rots the nuts, inſtead of promoting their vegetation. When the plants are about four inches high, they muſt be ſhifted into larger pots, being careful not to diſturb the mould about the roots; for this tree bears tranſplanting ſo ill, that hardly any of thoſe whoſe roots are ſeparated from the mould will grow. After they are ſet in their new pots, they muſt have a ſlight watering, and this muſt now and then be repeated in ſummer; but they muſt have little or no water in winters, as it occaſions their tender roots to rot at that ſeaſon. They muſt from time to time be ſhifted into larger pots as they ſhall require it, and muſt conſtantly be kept in the warmeſt Bark Stove, where they will ſometimes flower, but the fruit never ripens in England.

Titles.

Occiden=tale.

There being no other ſpecies of this genus, it is named ſimply, *Anacardium.* Caſpar Bauhine calls it, *Anacardii alia ſpecies*; Cateſby, *Pomifera ſ. potius prunifera Indica, nuce reniformi*; Rumphius, *Caſſuvium*; Tournefort, *Acajou*; and Rheede, *Kepa-mava.* It grows naturally in both the Indies.

Claſs and Order in the Linnæan Syſtem.

Anacardium is of the Claſs and Order *Decandria Monogynia*; and the characters are,

The characters.

1. Calyx is a perianthium compoſed of five oval, acuminated, erect, deciduous leaves.

2. Corolla is five ſpear-ſhaped, linear, acute petals, which are reflexed at the top, but ſtraight underneath, and twice the length of the calyx.

3. Stamina are ten capillary, erect filaments ſhorter than the calyx, having ſmall roundiſh antheræ.

4. Pistillum conſiſts of a roundiſh germen, an awl-ſhaped, inflexed ſtyle the length of the corolla, and an oblique ſtigma.

5. Pericarpium. There is none. The receptacle is oboval, fleſhy, and very large.

6. Semen is a large kidney-ſhaped nut, placed on the tip of the receptacle.

CHAP.

C H A P. XIV.

ANDRANCHE, BASTARD ORPINE.

THERE are two known ſpecies only of *Andranche*: One is an herbaceous plant, and has been already deſcribed; the other is a tree, and requires the ſituation of a moderate Stove. It is uſually called the Tree *Andranche*, or Baſtard Tree Orpine.

The plant deſcribed. The ſtem is woody, upright, branching, and will grow to twelve or fifteen feet high. The leaves are of an oval figure, and their edges are entire; they are ſmooth, have footſtalks, and are placed alternately on the branches. The flowers are produced from the ſides of the branches in cluſters; there are male and female flowers on the ſame plant; and the female flowers are ſucceeded by large, hard, woody capſules, containing the ſeeds.

There are ſome varieties of this plant, of no conſiderable difference.

Culture. To raiſe theſe plants, ſow the ſeeds early in March on a good hotbed. The plants will readily come up; and when they are fit to remove, ſet them out on a ſecond hotbed, with a ball of earth to each plant; give them frequent waterings; and when the heat of this bed is abated, take them up, plant them in pots, and plunge them into the third hotbed. Frequently water them, ſhade them with mats in the heat of the day, and give them plenty of air; and here they may ſtand until they are removed into the Stove.

Title. The title of this ſpecies is, *Andranche erecta arborea*. It grows naturally in China. Fruticosa,

C H A P. XV.

ANNONA, CUSTARD APPLE.

THE reſpective ſpecies of this genus go by the ſeveral names of,

Species.

1. The Cuſtard-Apple.
2. The Sweet Sop.
3. The Sour Sop.
4. The Water Apple.
5. The Purple Apple.
6. The Blue Apple.

Cuſtard Apple deſcribed. 1. The Cuſtard Apple. The trunk is large, ſends forth numerous branches from the ſides, is covered with a ſmooth aſh-coloured bark, and grows to be eighteen or twenty feet high. The leaves are ſpear-ſhaped, pointed, veined, frequently waved on their edges, and of a light green colour. The flowers are produced from the ſides of the branches, and are ſucceeded by a conical orange-coloured fruit, as big as a large Orange, full of a ſweet yellowiſh pulp, as ſoft as a Cuſtard, which firſt gained it the appellation of the Cuſtard Apple.

Sweet, 2. The Sweet Sop. The trunk is near twenty feet high, and ſends forth branches from every ſide. The leaves are oblong, oval, veined, waved, and of an agreeable odour. The flowers are tripetalous, and are ſucceeded by a ſmall, conical, roundiſh, ſcaly, purple-coloured fruit, full of a ſoft, ſweet pulp.

and Sour Sop deſcribed. 3. The Sour Sop. The trunk is eighteen feet high, but the branches are few and irregular. The leaves are oval, ſpear-ſhaped, ſmooth, and of a gloſſy green colour. The fruit is very large, nearly of an oval figure, and of a greeniſh yellow colour, guarded on the outſide with numerous tubercles and ſoft ſpines, and poſſeſſed within of a ſoft, white, four-taſted pulp.

Water, 4. The Water Apple grows to upwards of thirty feet high. The leaves are oblong, obtuſe, ſtrongly ſcented, and of a gloſſy green colour. The fruit is ſmall, conical, ill taſted, and of a yellow colour when ripe.

Purple, 5. The Purple Apple grows to be thirty or forty feet high. The leaves are ſpear-ſhaped, ſmooth, and of a gloſſy green colour. The fruit is of a purple colour, and full of a cooling, agreeable, wholeſome pulp; which is much reliſhed by the inhabitants of thoſe hot countries where this tree naturally grows.

and Blue Apple deſcribed. 6. The Blue Apple grows to be thirty feet high. The leaves are ſpear-ſhaped, long, and downy. The fruit is ſmall, of a blueiſh colour, and full of a very ſweet, agreeable, wholeſome, cooling pulp.

Culture. Theſe plants are eaſily raiſed by ſeeds, which muſt be procured from the countries where they naturally grow. They ſhould be ſown early in the ſpring, in pots filled with very rich, light earth, and the pots ſhould be plunged up to the rims in a bark-bed. The plants will readily come up; and when they are about four inches high, each muſt have its ſeparate pot, be again plunged into the bed, and watered and ſhaded until it has taken root. Afterwards more air muſt be given them; and early in the autumn they muſt be taken into a good Stove, plunging them up to the rims in the bark-bed there. They muſt from time to time be ſhifted into larger pots, be kept conſtantly in the Stove, be duly watered in hot weather, and have much air; but in winter they muſt have it ſeldom, and in ſmall quantities. Thus they may be brought to advance towards perfection, and add great beauty to the Stove by their gloſſy, well-looking leaves, which will continue all the year; but they ſeldom flower, and hardly ever produce fruit in theſe countries.

Titles. 1. The Cuſtard Apple is titled, *Annona foliis lanceolatis, fructibus ovatis reticulato-areolatis.* Reticulata. Brown calls it, *Annona foliis oblongis undulatis venoſis, fructibus areolatis*; Rumphius, *Anona*; and Sloane, *Anona maxima foliis oblongis anguſtis, fructu maximo luteo conoide; cortice glabro in areolas angulares diſtincto.* It grows naturally in the Weſt Indies.

2. The Sweet Sop is titled, *Annona foliis oblongis, fructibus obtuſe ſubſquamatis.* Squamosa Brown calls

it, *Annona foliis oblongo-ovatis undulatis venoſis, floribus tripetalis, fructibus mammillatis*; and Sloane, *Annona foliis odoratis minoribus, fructu conoide ſquamoſo parvo dulci.* It grows naturally in the Weſt Indies.

Muricata. 3. The Sour Sop is titled, *Annona foliis ovali-lanceolatis glabris nitidis planis, pomis muricatis.* Brown calls it, *Annona foliis oblongo-ovatis nitidis, fructibus ſpinis mollibus tumentibus obſitis*; Plukenet, *Arbor Indica latifolia, fructu ſquamoſo aſpero*; alſo, *Annona Indica, fructu conoide viridi ſquamis veluti aculeato*; Sloane, *Annona maxima, foliis latis ſplendentibus, fructu maximo viridi conoide: tuberculis ſ. ſpinulis innocentibus aſpero*; and Plumier, *Guanabanus fructu molliter aculeato.* It grows naturally in the warmer parts of America.

Palustris 4. The Water Apple is titled, *Annona foliis oblongis obtuſiuſculis glabris, fructibus areolatis.* Brown calls it, *Annona uliginoſa, foliis nitidis ovatis, fructibus areolatis odoratis*; Sloane, *Annona aquatica, foliis laurinis atro-virentibus, fructu minore conoide luteo, cortice glabro in areolas diſtincto*; and Plukenet, *Annona Americana juxta fluviorum ripas innaſcens pyriformi fructu.* It is common by waters in America.

5. The Purple Apple is titled, *Annona foliis lanceolatis glabris nitidis lineatis.* Burman calls it, *Annona ſylveſtris*; and Plumier, *Guanabanus fructu purpureo.* It grows naturally in Ceylon. Asiatica.

6. The Blue Apple is titled, *Annona foliis lanceolatis pubeſcentibus.* Plumier calls it, *Guanabanus fructu ſubcœruleo.* It grows naturally in America. Africana.

CHAP. XVI.

APOCYNUM, DOG's BANE.

THERE are ſeveral varieties, tho' only two real ſpecies, of *Apocynum* that are proper for the Stove; and theſe are,

Species.

1. The Upright Shrubby *Apocynum*, or Dog's Bane.
2. Climbing Dog's Bane.

Upright Shrubby Apocynum or Dog's Bane deſcribed.

1. The Upright Shrubby *Apocynum*, or Dog's Bane, riſes with an upright, woody, branching ſtem, to the height of four or five feet. The leaves are oval, ſharp-pointed, ſmooth, of a ſhining green colour on the upper ſurface, but paler underneath, and are placed oppoſite by pairs on the branches. The flowers grow from the wings of the leaves in ſmall bunches; they uſually flower in our Stoves in July, or the latter end of the ſummer, but are never ſucceeded by ſeeds in theſe parts.

Varieties.

There are two principal varieties of them, called among Gardeners,

The Purple,

And the Yellow Flowering Shrubby Dog's Bane.

Climbing Dog's Bane deſcribed.

2. Climbing Dog's Bane. Of this plant there are no leſs than four or five varieties, differing in ſome reſpect or other. In the countries where they naturally grow, they twiſt themſelves about trees to upwards of twenty or thirty feet high. The leaves are of an oval figure, are very much veined, and grow oppoſite by pairs on the branches. The flowers grow from the ſides of the branches in ſmall cluſters; ſome of them are of a purpliſh colour, others greeniſh, and ſome almoſt white; they flower in our Stoves in the autumn, but never afford us any good ſeeds.

Culture.

Theſe ſorts are beſt raiſed from ſeeds, which ſhould be procured from the places where they naturally grow. They ſhould be ſown on a good hotbed, and after the plants are four or five inches high, ſhould have each a ſeparate ſmall pot. They ſhould be plunged immediately into the bark-bed, and from time to time, as the plants advance in ſize, muſt have larger pots; and if they are continued in the Stove, and judiciouſly managed, in two or three years they will ſhew their bloom.

Theſe plants abound with a kind of milky juice, which directs us to give them water but ſparingly, as ſuch plants are liable to be deſtroyed by having it in too great plenty.

Theſe plants will alſo ſometimes grow by cuttings. As a milky juice always follows the bruiſe, the cuttings ſhould be laid in a Stove for a few days, that the wounded part may be wholly healed, otherwiſe they will be liable to rot. When the parts are healed, plant the cuttings in ſmall pots, filled with light, rich, ſandy earth, remove them into larger as they grow in ſize, and keep them conſtantly in the Stove.

They may alſo be encreaſed by layers. The operation may be done at any time of the year; and when they have ſtruck root, they ſhould be ſeparated from the old plants, and managed as the cuttings.

Titles.

1. The Upright Shrubby *Apocynum*, or Dog's Bane, is titled, *Apocynum caule erecto fruteſcente, foliis lanceolato-ovalibus: corollis acutis fauce villoſis.* Van Royen calls it, *Apocynum caule erecto arboreo, foliis ovatis acutis.* In the *Flora Zeylanica* it is termed, *Apocynum floribus faſciculatis.* It grows naturally in Ceylon. Frutescens.

2. Climbing Dog's Bane is titled, *Apocynum caule volubili perenni, foliis ovatis venoſis.* It grows naturally in India. Reticu=latum.

CHAP. XVII.

ARISTOLOCHIA, BIRTHWORT.

Species. OF this genus the following ſpecies muſt be placed in the Stove:

1. Indian Birthwort.
2. Carthagena Birthwort.
3. Sweet-ſcented American Birthwort.
4. Upright Creeping-rooted American Birthwort.

Indian, 1. Indian Birthwort has many long ſlender branches, which twiſt themſelves about whatever is near them. The leaves are heart-ſhaped, oblong, and grow alternately on the branches. The flowers are produced from the ſides of the ſtalks in ſmall cluſters; their colour is a dark purple; and they are ſucceeded by oblong, ſmooth ſeed-veſſels, that hang downward.

Carthagena, 2. Carthagena Birthwort. This ſpecies will climb, by the aſſiſtance of neighbouring trees, to thirty or forty feet high. The leaves are oblong, pointed, and of a thick conſiſtence. The flowers are produced from the tops of the branches in cluſters; their footſtalks are very long; and the ſeed-veſſels that ſucceed them are large, long, and have ſix ribs running lengthways.

Sweet-ſcented American, 3. Sweet-ſcented American Birthwort. This ſpecies will twine its branches about trees, to twenty feet or upwards in height. The root is creeping, and the ſtalks are large and woody. The leaves are heart-ſhaped, pointed, and grow alternately on the branches. The flowers grow from the upper parts of the branches on long footſtalks; their colour is a dark purple; they are very long, finely ſcented, and are ſucceeded by large, oblong ſeed-veſſels, having heart-ſhaped ſeeds.

and Upright Creeping-rooted American Birthwort deſcribed. 4. Upright Creeping-rooted American Birthwort. This ſpecies hath a creeping root, from which riſes an upright ſtalk about a yard high. The leaves are ſpear-ſhaped, long, narrow, hairy, and ſit cloſe, without any footſtalks, to the branches. The flowers are exceeding long, and are produced ſingly from the wings of the leaves on footſtalks; they grow erect, are of a dark purple colour, and are ſucceeded by long ſlender ſeed-veſſels, full of flat, heart-ſhaped ſeeds.

Culture. All theſe ſorts are propagated by ſeeds, which muſt be procured from the countries where they naturally grow. Theſe muſt be brought in the pods, and as ſoon as they arrive muſt be ſown in pots, and the pots be plunged in the bark-bed in the Stove: They ſhould have a ſhady ſituation; and here they may remain until the ſpring after they have been ſown. If no plants appear, about the middle of March let a good hotbed be prepared; in which plunge the pots, and give them all due attendance which ſuch a ſituation ſhall require: And if the ſeeds are good, they will appear in about ſix weeks or two months after. As the heat of this bed declines, give them another hotbed; after that a third; and when the plants are of ſize to remove, let each have a ſeparate pot filled with light, ſandy earth. Plunge theſe into another hotbed, keep them ſhaded, and water them frequently. Here let them ſtand until the autumn; at the approach of which let the pots be removed, and plunged in the bark-bed in the Stove.

Titles. 1. Indian Birthwort is titled, *Ariſtolochia foliis cordato-oblongis, caule volubili, pedunculis multifloris.* Rheede calls it, *Catelæ-vegon.* A variety of it in the *Hortus Cliffort.* is termed, *Ariſtolochia caule volubili, foliis cordato-oblongis, fructu pendulo, pedunculis ramoſis.* It grows naturally in both the Indies. Indica.

2. Carthagena Birthwort. This is titled, *Ariſtolochia foliis oblongis acuminatis, caule volubili, pedunculis multifloris.* Miller calls it, *Ariſtolochia foliis oblongo-ovatis obtuſis integerrimis, caule ſcandente, floribus terminalibus, fructibus ſexangularibus maximis.* It grows naturally near Carthagena in New Spain. Maxima.

3. Sweet-ſcented American Birthwort. This is titled, *Ariſtolochia foliis cordatis, caule volubili fruticoſo, pedunculis ſolitariis, labio corollis majore.* Sloane calls it, *Ariſtolochia ſcandens odoratiſſima, floris labello purpureo, ſemine cordato*; Brown, *Ariſtolochia ſcandens foliis cordatis acuminatis florum flabellis amplis purpureis*; and Plumier, *Ariſtolochia folio cordiformi, flore longiſſimo atropurpureo, radice repente.* It grows naturally in Jamaica. Odoratiſſima.

4. Upright Creeping-rooted American Birthwort is titled, *Ariſtolochia foliis lanceolatis ſeſſilibus ſubhirſutis, caule erecto, pedunculis ſolitariis unifloris, floribus longiſſimis.* It grows naturally at La Vera Cruz. Erecta.

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CHAP. XVIII.

ARUM, WAKE-ROBIN or CUCKOW-PINT.

Introductory obſervations. OUR Stoves receive additional graces from the tender ſorts of *Arum* chiefly by their leaves, which being large, and continuing green all winter, have a very pretty effect among other plants at that ſeaſon. With regard to the flowers, they are very inconſiderable; and that noble ſpadix, which peeps out of the ſpatha from our hedges, ſeldom ſhews itſelf in perfection from theſe plants in theſe countries; and when they do appear, they are for the moſt part ſmall, bad-coloured, and dwindling. The ſpecies are,

Species.

1. Trilobate *Arum.*
2. Ægyptian *Arum,* or *Colocaſia.*
3. Eſculent *Arum.*
4. Great Ceylon *Arum.*
5. Edder *Arum.*

6. Divaricated-leaved *Arum.*
7 Sagittated-leaved *Arum.*
8. Sagittated-leaved Tree *Arum.*
9. Lanceolated-leaved Tree *Arum.*

Trilobate, 1. Trilobate *Arum.* The leaves of this plant grow on moderately long footſtalks, riſe immediately from the roots, and each of them is compoſed of three pointed lobes. It is one of the prettieſt of the tender ſorts, the inſide of the ſpatha and the piſtil being of a fine ſcarlet colour. There is a greater certainty of this plant's flowering than of moſt of the other ſorts; for when the plants are in health, they uſually flower in May, but never produce any ſeeds with us. The leaves decay the latter part of the ſummer, and freſh ones ſoon after ſucceed them, which continue green all winter, and have a pretty effect.

Ægyptian 2. Ægyptian *Arum.* This plant is frequently called *Colocaſia.* It has a very large root, from which ſpring a few large, target-ſhaped, oval leaves, that are cut into two parts at their baſe. The flowers uſually appear in May; and after they are paſt, the leaves begin to decay; but they are ſoon ſucceeded by freſh ones from the root, which continue green all the winter.

Eſculent, 3. Eſculent *Arum.* This plant hath very large roots, from which the leaves immediately riſe; theſe are target-ſhaped, oval, entire, and divided into two parts at their baſe. The leaves as well as the roots of this ſpecies are eatable, and are propagated in many hot countries for food. The former are boiled and eaten as greens are, and are ſaid to be very wholeſome.

Great Ceylon, 4. Great Ceylon *Arum.* This plant hath target-ſhaped, cordated, waved leaves, which are divided into two parts at their baſe; they ſpring immediately from the root, are very large, and the excellence of this plant is chiefly derived from them.

Edder, 5. Edder *Arum.* This plant is uſually called Edder by the inhabitants of America, where the plant naturally grows. The roots are large, and are eaten in thoſe countries. From theſe ariſe the leaves, which are large, obtuſe, heart-ſhaped, angular, and pointed. The flowers ſeldom ſhew themſelves in any degree of perfection with us; but the leaves have a very pretty effect during the winter ſeaſon.

Divaricated-leaved, 6. Divaricated-leaved *Arum.* This plant alſo hath an eſculent root, from which iſſue a few divaricated or ſpreading leaves, that are large, heart-ſhaped, and angular; and in theſe chiefly it differs from the other ſorts.

Sagittated-leaved, 7. Sagittated-leaved *Arum.* This plant alſo is an eſculent, and much uſed in the iſlands of Barbadoes, Jamaica, &c. The leaves are triangular, ſhaped like the top of an arrow, and the lower angles are acute, and ſpread from each other. They are of a dark or blackiſh-green colour, and, being of a different figure from moſt of the other ſorts, cauſe variety in our Stoves.

Sagittated-leaved Tree, 8. Sagittated-leaved Tree *Arum.* This plant riſes with a large, upright, jointed ſtalk, to the height of ſix or eight feet. The leaves are ſagittated, and plentifully adorn the upper part of the ſtalk. The flowers grow from the ſides of the ſtalks, each having a ſeparate ſpatha of a pale-green colour, and ſit cloſe without any footſtalks: They flower, earlier or later, according to the condition of the plant, and are never ſucceeded by good ſeeds in theſe parts.

and Lanceolated-leaved Tree Arum deſcribed. 9. Lanceolated-leaved Tree *Arum.* This plant will grow to be five or ſix feet high. The ſtalk is large, jointed, green, and upright. The leaves are ſpear-ſhaped, oval, and grow in cluſters near the top of the ſtalk, the lower part of it not having any. The flowers grow from the ſides of the ſtalks, ſit cloſe, and are contained in green ſpathæ, which are ſometimes ſpotted with white. Part of the ſpadix, where the flowers are produced, adheres to the ſpatha, ſo that the flowers are perfect only on one ſide of it; which is a property to be obſerved in no other ſpecies.

Venomous quality of the plant. The plant is of a venomous quality, and has been frequently called, The Poiſoned Cane. Any part of it, being applied to the mouth or tongue, brings on a moſt violent pain, and defluxion of ſaliva; on which account it is uſed in that manner to puniſh negroes for offences. A violent ſwelling ſometimes enſues; but it it ſeldom attended with worſe ſymptoms.

Culture. The propagation of the firſt ſeven ſorts is eaſily performed by dividing the roots; the beſt time for which work is in the ſummer, ſoon after the plants have flowered. A compoſt ſhould be prepared for their reception, conſiſting of an equal quantity of good earth from a rich paſture, with the ſward well rotted, drift or ſea-ſand, and willow-mould, or ſuch as is found under an old wood-pile. Theſe ſhould have been mixed, often turned, and have lain long enough to have been reduced to a well-incorporated ſoil; and in this the offsets ſhould be planted. The pots muſt be immediately plunged into the bark-bed; where they will ſoon ſtrike root, and ſhoot out leaves, which will ſhew themſelves green and beautiful all winter.

The cuttings of the laſt two ſorts readily take root. Divide, therefore, the ſtalk into lengths, and preſerve three joints for each cutting. Theſe muſt be then laid by, and not planted before the wounded parts are healed; which will often not be under ſix weeks or more. As ſoon as you find them healed, plant them in pots filled with the like kind of compoſt, plunge them into the bark-bed, and manage them like the other ſorts.

All theſe plants ſhould be kept conſtantly in the Stove, being too tender to bear the open air; and although they will grow moderately well in the Dry Stove, yet the leaves will be ſmaller, and of inferior beauty to thoſe that remain conſtantly in the bark-bed.

Titles. 1. Trilobate *Arum* is titled, *Arum acaule, foliis ſagittato-trilobis, flore ſeſſili.* Herman calls it, *Arum, trilobato folio, humilius & minus Zeylanicum*; Commeline, *Arum humile Zeylanicum latifolium, piſtillo coccineo*; and Rumphius, *Ariſarum Amboinicum.* It grows naturally in Ceylon. Trilobatum.

2. Ægyptian *Arum*, or *Colocaſia*, is titled, *Arum acaule, foliis peltatis ovatis repandis: baſi ſemibifidis.* Caſpar Bauhine calls it, *Arum maximum Ægypticum, quod vulgò Colocaſia*; Columna, *Arum Ægypticum*; and Cluſius, *Colocaſia.* It grows naturally in the moiſt parts of Ægypt, Syria, Cyprus, and Crete. Colocasia.

3. Eſculent *Arum* is titled, *Arum acaule, foliis peltatis ovatis integerrimis: baſi ſemibifidis.* Sloane calls it, *Arum minus, nymphææ folio, eſculentum*; Caſpar Bauhine, *Braſſica Braſiliana, foliis nymphææ*; and Rumphius, *Caladium aquatile.* It grows naturally in America. Esculentum.

4. Great Ceylon *Arum* is titled, *Arum acaule, foliis peltatis cordatis repandis: baſi bipartitis.* Herman calls it, *Arum maximum macrorrhizon Zeylanicum.* It grows naturally in Ceylon. Macrorhizum.

5. Edder *Arum* is titled, *Arum acaule, foliis cordatis obtuſis mucronatis: angulis rotundatis.* It grows naturally in America. Peregrinum.

6. Divaricated-leaved *Arum* is titled, *Arum* Divaricatum

foliis cordato-haſtatis divaricatis. Rheede calls it, *Neienſchena major.* It grows naturally in India.

Sagittæ-folium. 7. Sagittated-leaved *Arum* is titled, *Arum acaule, foliis ſagittatis triangulis: angulis divaricatis acutis.* Plumier calls it, *Arum, amplis foliis, eſculentum*; Sloane, *Arum minus eſculentum, ſagittariæ foliis viridi-nigricantibus*; and Plukenet, *Arum minus, ſagittariæ foliis.* It grows naturally in Jamaica and Barbadoes.

Arborescens. 8. Sagittated-leaved Tree *Arum* is titled, *Arum cauleſcens rectum, foliis ſagittatis.* Plumier calls it, *Arum arboreſcens, ſagittariæ foliis.* It grows naturally in America.

Seguinum. 9. Lanceolated-leaved Tree *Arum* is titled, *Arum cauleſcens ſubrectum, foliis lanceolato-ovatis.* Plumier calls it, *Arum cauleſcens, cannæ Indicæ foliis*; Browne, *Arum caule erecto geniculato, inferne nudo, foliis oblongo-ovatis*; Sloane, *Arum caule geniculato, cannæ Indicæ foliis, ſummis labris deguſtantes mutos reddens*; and Plukenet, *Canna Indica venenata.* It grows naturally in America.

CHAP. XIX.

ARUNDO, The REED.

Species. THERE is a ſpecies of this genus, called, The Bambu Cane, or Tree Reed, which muſt come into our largeſt Stoves.

Varieties. There are two varieties of it, both of which will grow to be upwards of thirty feet high in their native places; though they differ a little in their leaves; thoſe of one ſort being narrower and more pointed than thoſe of the other. This is uſually called, The Ily Bambu.

The plant deſcribed. They grow at an amazing rate, and will often make ſhoots, twenty feet in height, in leſs than two months. The ſtalks are proportionally ſtrong, and ſerviceable to the inhabitants of the places where they naturally grow for many uſes. The leaves are uſed for package; ſo that we have them brought over in perfection with tea-cheſts, &c. ſurpriſingly large, pointed, and broad. The ſtalks with us are generally uſed for fiſhing-rods, walking-ſticks, &c. and when growing in our Stoves have a very ſingular appearance, and are generally enquired after by the curious but unſkilful viſitors of thoſe places.

Culture. They are eaſily propagated by dividing the roots, or taking off the ſlips, early in the ſpring. Theſe ſlips ſhould be planted in large tubs filled with a rich, fat earth; which tubs ſhould be immediately plunged into the bark-bed, and the plants be well watered. They grow naturally in moiſt places in both the Indies; and this teaches us, that in our after-management we cannot water them too much. The firſt ſummer after planting they will ſometimes riſe weak; but the year following they will ſhoot very ſtrong, and in the ſpace of a few weeks arrive to the top of your Stove. After the tubs are rotten, it is common to let the plants remain undiſturbed, and ſuffer the roots to feed on the old decayed bark: But this method is hardly worth practiſing, unleſs you have a very great ſhare of Stove-room, and are particularly fond of theſe plants; for they will become too large, and will ſhoot ſtronger from the old rotten bark than ever. In order, therefore, to have the plants neat, and under better confinement, the beſt way will be, when you find the tubs begin to decay, and the plants grown to a large ſize, to take off a few ſlips, plant them in new tubs, and manage them as before; and when they are in perfection, wholly turn out the old plants, and ſubſtitute theſe in their room.

Titles. Bambos. This ſpecies is titled, *Arundo calycibus multifloris, ſpicis ternis ſeſſilibus.* Caſpar Bauhine calls it, *Arundo arbor*; John Bauhine, *Tabaxir & Mombu arbor*; and Rheede, *Ily.* It grows naturally in both the Indies.

CHAP. XX.

ASCLEPIAS, SWALLOW-WORT.

Species. THE more tender ſpecies of this genus are,

1. Giant *Aſclepias.*
2. Waved-leaved African *Aſclepias.*
3. American Scarlet *Aſclepias*, or Baſtard Ipecacuana.
4. White American *Aſclepias.*

Giant, 1. Giant *Aſclepias.* This plant riſes, with a firm, upright, woody ſtalk, to the height of about ſeven feet. The leaves are large, and grow by pairs at the joints; they are of an oblong, oval figure, having no footſtalks, and embrace the ſtalk with their baſe. The flowers terminate the branches in umbels, and are of a deeper red colour in the middle than at the baſe, where they are uſually tinged with green. The plant flowers in July or Auguſt, but is rarely ſucceeded by good ſeeds. The pods, which naturally follow the flowers, are large, double, and inflated; but from a full umbel of flowers, with the beſt luck, only a pod or two may be expected, ſo great a ſhare of the umbel always proving abortive.

Waved-leaved African, 2. Waved-leaved African *Aſclepias.* This plant grows to about five or ſix feet in height. The leaves grow oppoſite to each other, without any footſtalks; they are large, of an oblong, lanceolate figure, waved on their edges, ſharp-pointed, and much reſemble thoſe of our Common Dock. The flowers are produced from the ends of the ſtalks in umbels, and, what is ſingular, have ciliated petals. The fruit that ſucceeds them is a large, double, inflated pod, as in the others.

and American Scarlet Aſclepias deſcribed. 3. American Scarlet *Aſclepias.* This plant is uſually called Baſtard Ipecacuana; but the roots are frequently ſent from America for the

True Ipecacuana; which is a very dangerous practice, this ſpecies having a poiſonous quality. However, they are eaſily known aſunder; for the true Ipecacuana has large, jointed, fleſhy roots, whereas the roots of this ſpecies are ſmall and fibrous. It will grow to be five or ſix feet high; the ſtalks are ſingle, and are garniſhed with ſmooth, ſpear-ſhaped leaves, having footſtalks. The flowers are produced from the ſides of the branches near the top; they grow in ſingle umbels, are erect, and their poſition is in the alternate way: The petals of the flowers are ſcarlet, but the horns, or *nectaria*, are of a bright-ſaffron colour. They flower in July and Auguſt, and the pods that ſucceed them will frequently bring their ſeeds to perfection.

White Aſclepias deſcribed. 4. White *Aſclepias*. The ſtalks of this plant are ſingle, and will grow to three or four feet high. The leaves are ſmooth, ſpear-ſhaped, long, and very much like thoſe of the Peach, or Almond. The flowers grow in ſingle umbels, placed alternately, near the tops of the ſtalks; they are of a white colour, will be in blow in July or Auguſt, and are ſucceeded by large, double pods, containing the ſeeds. This plant is for the moſt part biennial; but it will nevertheleſs, like our Holly-oaks, ſhoot out afreſh from the bottom, and frequently continue many years.

All theſe ſorts are beſt raiſed from ſeeds. Culture. Theſe ſhould be ſown in pots, filled with light, freſh earth, in the ſpring. The pots ſhould be immediately plunged into a good hotbed; and when the plants come up, the niceſt management of tender plants muſt be allowed them. The water which is to refreſh them muſt have ſtood in the Stove twelve or fourteen hours before it is uſed; and when they begin to be of a ſize to tranſplant, a few days before you remove them, let ſome good, light, freſh earth be laid on the hotbed to warm, that the plants may not be chilled on their removal into colder earth than what they had been uſed to grow in. When this earth is made warm by the heat of the bed, fill the pots therewith, and in theſe ſet your plants, with a good ball of earth to each root; which being done, plunge them into another good hotbed, water them with water that has ſtood in the Stove, and ſhade them until they have taken root. When the ſun ſhines warm, they muſt conſtantly have air, and when they grow too large for the pots, ſhould be removed into larger; which will not retard their growth, as the whole mould of the pots may be turned out with the roots: After this, they may at any time be removed into the Stove, plunging the pots up to the rims in the bark-bed there.

Whoever is fond of theſe plants, ſhould be careful to ſow the ſeeds at proper diſtances; for the beauty of the plants greatly goes off, after the ſecond or third year of flowering.

Titles. 1. Giant *Aſclepias* is titled, *Aſclepias foliis amplexicaulibus oblongo-ovalibus.* Plukenet calls it, *Apocynum erectum majus latifolium Indicum*; Alpinus, *Beidel oſſar*; and Rheede, *Ericu.* It grows naturally in India and Ægypt. Gigantea.

2. Waved-leaved African *Aſclepias.* This is titled, *Aſclepias foliis ſeſſilibus oblongis lanceolatis undulatis, petalis ciliatis.* Commeline calls it, *Apocynum Africanum, lapathi folio.* It is a native of Africa. Undulata.

3. American Scarlet *Aſclepias* is titled, *Aſclepias foliis lanceolatis petiolatis glabris, caule ſimplici, umbellis erectis ſolitariis.* In the *Hortus Cliffort.* it is termed, *Apocynum caule erecto ſimplici annuo, foliis lanceolatis, umbellis alternis erectis.* Dillenius calls it, *Apocynum radice fibroſâ, petalis coccineis, corniculis croceis*; and Herman, *Apocynum Curaſſavicum ſive Americanum, fibroſâ radice, floribus aurantii, chamænerii foliis latioribus.* It grows naturally in South America. Curaſsavica.

4. White American *Aſclepias* is titled, *Aſclepias foliis lanceolatis glabris, caule ſimplici, umbellis erectis lateralibus ſolitariis.* Gronovius calls it, *Aſclepias caule erecto ſimplici annuo, foliis lanceolato-ovatis glabris, pedunculis alternis, umbellis erectis*; Dillenius, *Apocynum perſicariæ mitis folio, corniculis lacteis*; and Plumier, *Apocynum Americanum, foliis amygdali longioribus.* It grows naturally in the warmer parts of America. Nivea.

CHAP. XXI.

ASPARAGUS.

TO this genus is ſuppoſed to belong the noted ſpecies called The Dragon Tree.

The plant deſcribed. The Dragon Tree has a large cylindrical trunk, about twelve feet high, at the top of which are a large quantity of leaves, growing ſingly. Theſe leaves have no footſtalks; and as freſh ones are produced, the old ones fall off, leaving the marks of their baſe on the body of the trunk the whole length; they grow in a circular manner round the ſtalk, and hang downward; they are ſword-ſhaped, entire, and much reſemble thoſe of the Common Yellow *Iris*, but are longer, and thicker in the middle; they are ſmooth, of a bright-green colour, and on the whole have a very ſingular and ſtriking look. The flowers are ſmall, and of little account; each is compoſed of ſix oblong petals, that are reflexed at the tops, but join their claws, and form an erect tube below. Theſe flowers are ſucceeded by roundiſh, yellowiſh berries, each containing three cells, in which are lodged two roundiſh, ſmooth ſeeds.

Culture. In order to raiſe theſe plants, the ſeeds ſhould be ſown in pots, and the pots plunged up to the rims in a good bark hotbed of a regular temperature. When the plants come up, they muſt have frequent waterings with water that has ſtood in the Stove all night; and great care muſt be taken not to draw them up too faſt. When the plants are grown about four inches high, let each be ſet in a ſeparate pot, water them with water that has been in the Stove, and let the benefit of a good hotbed be afforded them: There they may remain, with a good ſupply of air and water, during the ſummer ſeaſon, and in the autumn may be removed into the Stove. As they encreaſe in ſize, they muſt be removed into larger pots, at which time care ſhould be taken not to reduce, or wound their roots. In the three hotteſt ſummer months they may be ſet abroad in the open air, in a well-ſheltered place, but in September muſt be conſtantly taken into the Stove.

The Dragon's Blood of the ſhops is not taken from this tree, as has been erroneouſly imagined.

Titles. Draco. The Dragon-tree is titled, *Aſparagus? caudice ſimplici, foliis enſiformibus mucronatis ſubcarnoſis imbricatis patentibus.* Boerhaave calls it, *Palma foliis longiſſimis pendulis, abſque pedunculis e caudice glabro enatis*; Van Royen, *Cordylile foliis inermibus integerrimis flaccidis*; and Caſpar Bauhine and others, *Draco Arbor.* It grows naturally in the Eaſt Indies.

CHAP. XXII.

AVICENNIA.

Species. THERE are two ſpecies of this genus, called,

1. Tomentoſe *Avicennia.*
2. Shining-leaved *Avicennia.*

Tomentoſe, 1. Tomentoſe *Avicennia* is a large, branching tree, forty or fifty feet high. The leaves are as large as thoſe of the Laurel, oblong, firm, of a ſtrong green colour on their upper ſide, but whitiſh underneath, and grow in pairs on ſhort footſtalks. The flowers are produced from the ends of the branches in large cluſters; they are of a white colour, appear in September, but the ſeeds do not ripen in England.

and Shining-leaved Avicennia deſcribed. 2. Shining-leaved *Avicennia.* The ſtem is woody, firm, and branching. The leaves are of a gloſſy green colour on both ſides. The flowers are produced in cluſters from the branches; but the ſeeds rarely ripen in England.

Culture. Theſe plants are raiſed by ſowing the ſeeds in the ſpring, in pots filled with rich loamy earth, and plunging them up to the rims in a hotbed of tanner's bark. When the plants are three or four inches high, each ſhould be ſet in a ſeparate pot, and plunged again into the bark-bed, where they muſt be watered and ſhaded until they have taken root; after that they muſt be hardened by degrees to the air, and in the autumn ſhould be taken into a temperate Stove; for a moderate degree of heat will be ſufficient to keep theſe trees in a flouriſhing ſtate. When they are grown tolerably ſtrong, they may be ſet abroad in ſummer; and in winter they will ſucceed very well in a good Green-houſe.

Titles. Tomentosa. 1. The firſt ſpecies is titled, *Avicennia foliis ſubtus tomentoſis.* In the *Flora Zeylanica* it is termed ſimply, *Avicennia.* Brown calls it, *Bontia foliis integris oblongis oppoſitis, petiolis craſſis breviſſimis ſubamplexicaulibus, floribus racemoſis*; Sloane, *Mangle lauroceraſi foliis, flore albo tetrapetalo*; and Caſpar Bauhine, *Anacardium.* It grows naturally in both the Indies.

Nitida. 2. The ſecond ſpecies is titled, *Avicennia foliis utrinque nitidis.* It grows naturally in America.

Claſs and Order in the Linnæan Syſtem. *Avicennia* is of the Claſs and Order *Didynamia Angioſpermia*; and the characters are,

The characters. 1. CALYX is a pemanent prianthium, divided into five oval, obtuſe, concave, erect parts.

2. COROLLA is one petal. The tube is ſhort, and bell-ſhaped. The limb is bilabiated. The upper lip is ſubquadrated, plane, and indented. The lower lip is cut into three oval, plane, equal ſegments.

3. STAMINA are four awl-ſhaped, erect filaments, reflexed towards the upper lip, of which two are a little ſhorter than the others, having roundiſh, didymous antheræ.

4. PISTILLUM conſiſts of an oval germen, an awl-ſhaped, erect ſtyle the length of the ſtamina, and a bifid, acute ſtigma, the lower ſegment being deflexed.

5. PERICARPIUM is a coriaceous, rhomboidal, oval, compreſſed capſule, formed of two valves, and containing one cell.

6. SEMEN. The ſeed is ſingle, large, and the figure of the capſule.

CHAP. XXIII.

BANISTERIA.

Species. THE ſpecies of this genus are called,

1. Purple *Baniſteria.*
2. Bengal *Baniſteria.*
3. Bay-leaved *Baniſteria.*
4. Angular-leaved *Baniſteria.*
5. Dichotomous *Baniſteria.*
6. Shining-ſeeded *Baniſteria.*
7. Brachiated *Baniſteria.*

Purple, 1. Purple *Baniſteria.* The ſtalk is woody, climbing, divides into many ſlender branches, and is covered with an aſh-coloured bark. The leaves are pinnated; the pinnæ are five or ſix pair, of an oval figure, and whitiſh underneath. The flowers come out from the wings of the leaves in ſlender bunches; they are of a purpliſh colour, and are ſucceeded by broad, winged ſeeds, which ſtand erect, but do not ripen in England.

Bengal, 2. Bengal *Baniſteria.* The ſtalk is ſtrong, woody, branching, and twines about trees or poles to the height of twenty feet. The leaves are oval, oblong, pointed, and grow oppoſite by pairs. The flowers are produced from the wings of the leaves in looſe ſpikes; they are of a blue colour, and are ſucceeded by ſlender, winged ſeeds, which ſpread from each other.

and Bay-leaved Baniſteria deſcribed. 3. Bay-leaved *Baniſteria.* The ſtalk is woody, branching, and twiſts about any thing near for its ſupport. The leaves are oval, oblong, rigid, much reſemble thoſe of the Bay-tree, and grow oppoſite to each other. The flowers come out from the ends of the branches, in long, branching, looſe ſpikes; they are of a yellow colour, and are ſucceeded by winged ſeeds, not much unlike thoſe of the Sycamore-tree.

4. Angular-

Angular-leaved, 4. Angular-leaved *Baniſteria.* The ſtalk is woody, branching, and twines about contiguous trees for its ſupport. The leaves are nearly angular, and hollowed on their ſides. The flowers are produced in ſlender bunches from the wings of the leaves, and are ſucceeded by ſeeds, which are very much like thoſe of the Common Maple-tree.

Dichotomous, 5. Dichotomous *Baniſteria.* The ſtalk is climbing, woody, and the branches are forked, and divide by pairs. The leaves are of an oval figure, and grow oppoſite to each other. The flowers come out from the ſides of the branches, in branching ſpikes; they are of a yellow colour, and are ſucceeded by ſlender, winged ſeeds, which do not ripen in England.

Shining-ſeeded, 6. Shining-ſeeded *Baniſteria.* The ſtalk is woody, ſlender, branching, and climbs about every thing that is near it. The leaves are roundiſh, oval, ſmooth, and downy underneath. The flowers come out in roundiſh bunches from the wings of the branches; they are of a yellow colour at firſt, and are ſucceeded by large, ſhining, gold-coloured ſeeds, which do not ripen in England.

and Brachiated Baniſteria deſcribed. 7. Brachiated *Baniſteria.* The ſtalk is woody, and ſends out many branches: Theſe again divide into others, and are poſſeſſed of tendrils, by which they lay hold on trees, and arrive to a conſiderable height. The leaves are nearly oval, pointed, and of a firm ſubſtance. The flowers come out in looſe ſpikes from the ends of the branches; they are at firſt of a golden-yellow colour, but die to a ſcarlet; and are ſucceeded by thin, ſlender ſeeds, which do not ripen in England.

Culture. All theſe are propagated by ſeeds, which muſt be procured from the countries where they naturally grow. They ſhould be preſerved in ſand, and ſown in pots as ſoon as poſſible after their arrival. In the ſpring they ſhould be plunged into a good hotbed, to bring them up, otherwiſe they are apt to remain inactive for two years. When the plants are about four inches high, each muſt be ſet in a ſeparate pot, be again plunged into a hotbed, be watered and kept ſhaded until they have taken root; they muſt afterwards have more air and frequent waterings, eſpecially in hot weather; and early in the autumn muſt be taken into the warmeſt Stove, plunging them up to the rims in the bark-bed there. They muſt from time to time be ſhifted into larger pots, as they ſhall require it; and muſt be trained up to ſticks, or a frame, thruſt down for their ſupport.

Titles. 1. The firſt ſpecies is titled, *Baniſteria foliis ovatis, ſpicis lateralibus, ſeminibus erectis.* In Miller's Dictionary it is termed, *Baniſteria foliis pinnatis: foliolis ovatis, ſpicis lateralibus, ſeminibus erectis.* Plumier calls it, *Acer ſcandens, pſeudo-acaciæ folio, flore purpuraſcente.* It grows naturally in the Weſt Indies.

Purpurea.

2. The ſecond ſpecies is titled, *Baniſteria foliis ovato-oblongis acuminatis, racemis lateralibus, ſeminibus patentibus.* Plumier calls it, *Acer ſcandens, foliis citri, flore cæruleo ſpicato*; and Plukenet, *Acer Benghalenſis, laurinis foliis, fructu tergemino.* It grows naturally in both the Indies.

Benghalensis.

3. The third ſpecies is titled, *Baniſteria foliis ovato-oblongis rigidis, racemis terminalibus.* Sloane calls it, *Acer ſcandens, foliis laurinis.* It grows naturally in Jamaica.

Laurifolia.

4. The fourth ſpecies is titled, *Baniſteria foliis ſinuato-anguloſis.* Plumier calls it, *Acer ſcandens, folio anguloſo*; and Ray, *Clematis anguloſo folio; aceris fructu.* It grows naturally in America.

Angulosa.

5. The fifth ſpecies is titled, *Baniſteria foliis ovatis, ramis dichotomis.* In the *Hortus Cliffort.* it is termed, *Baniſteria foliis ovatis, ramis dichotomis, ſeminibus extrorſum tenuioribus, introrſum laniculam emittentibus*; and Plumier calls it, *Acer ſcandens, convolvuli folio, flore exaureo cinereo.* It grows naturally in the warmer parts of America.

Dichotoma.

6. The ſixth ſpecies is titled, *Baniſteria foliis ſubovatis ſubtus tomentoſis, ramis brachiatis, pedunculis umbellatis.* Brown calls it, *Baniſteria foliis orbiculatis, petiolis biglandulis, ſeminibus unialatis rugoſis, racemis ſubumbellatis alaribus*; Sloane, *Acer ſcandens minus, apocyni facie, folio ſubrotundo*; and Plukenet, *Triopteris Americana ſcandens, fructu fulgente majore aureo.* It grows naturally in the Weſt Indies.

Fulgens.

7. The ſeventh ſpecies is titled, *Baniſteria foliis ſubovatis, ramis brachiatis, ſeminibus introrſum anguſtioribus.* In the *Hortus Cliffort.* it is termed, *Baniſteria foliis ſubovatis, ramis ramoſis, ſeminibus introrſum tenuioribus nullam lacinulam emittentibus.* It grows naturally in America.

Brachiata.

Baniſteria is of the Claſs and Order *Decandria Trigynia*; and the characters are, Claſs and Order in the Linnæan Syſtem. The characters.

1. Calyx is a ſmall, permanent perianthium, having tubercles underneath it, and divided to the bottom into five parts.

There are two melliferous glands under each ſegment of the calyx, except one.

2. Corolla is five large, rounded, crenated, patent petals, having oblong, narrow ungues.

3. Stamina are ten very ſmall filaments, with ſimple antheræ.

4. Pistillum conſiſts of three winged germens growing together, and three ſimple ſtyles, with obtuſe ſtigmas.

5. Pericarpium is three cloſed-winged capſules, having ſmall appendages at their ſides, and each containing one cell.

6. Semen. The ſeed is ſingle.

CHAP. XXIV.

BARLERIA.

OF this genus are the following ſpecies, called,

Species.
1. Long-leaved *Barleria.*
2. *Solanum*-leaved *Barleria.*
3. Box-leaved *Barleria.*
4. Scarlet *Barleria.*
5. Criſted *Barleria.*
6. *Prionitis.*

Long-leaved Barleria deſcribed. 1. Long-leaved *Barleria.* The ſtalk is upright, ſquare, jointed, and about three or four feet high. The leaves are long, narrow, ſword-ſhaped, and rough. The flowers come out in whorls round the ſtalks, having ſix ſharp ſpines under each whorl; they are of a blue colour, appear in July, and the ſeeds ripen in the autumn.

Solanum-leaved, 2. *Solanum*-leaved *Barleria.* The ſtalk is upright, ſquare, prickly, and a yard high. The leaves are oblong, entire, and grow two at a joint. The flowers come out in whorls round the ſtalks; they are of a blue colour, appear in July, and the ſeeds ripen in the autumn.

Box-leaved, 3. Box-leaved *Barleria.* The ſtalk is ligneous, upright, and armed with ſingle ſpines growing oppoſite to each other. The leaves are ſmall, oblong, entire, and reſemble thoſe of Box. The flowers are produced from the tops of the ſtalks in July, and the ſeeds ripen in the autumn.

Scarlet, 4. Scarlet *Barleria.* The ſtalk is upright, and unguarded with thorns. The leaves are oval, indented, and grow on footſtalks. The flowers are of a beautiful ſcarlet colour, and appear about the ſame time with the former.

and Criſted Barleria deſcribed. 5. Criſted *Barleria.* The ſtalk is woody, round, taper, and three or four feet high. The leaves are oblong, oval, acute at both ends, and undivided on their edges. The flowers come out from the wings of the leaves, ſitting cloſe to the ſtalks; they are of a blue colour, and appear about the ſame time with the former.

Prionitis deſcribed. 6. *Prionitis.* The ſtalk is upright, ſlender, and four or five feet high. The leaves are oval, pointed, grow oppoſite to each other at the joints, attended by four long ſpines, placed croſs-wiſe. The flowers are produced from the tops of the ſtalks; but they rarely ſhew themſelves, and ſeldom produce ſeeds in England.

Culture. The laſt ſort is propagated by parting of the roots, planting them in pots, and plunging them into the bark-bed in the Stove. The others are raiſed from ſeeds, which muſt be ſown on a hot-bed early in the ſpring. When they are fit to remove, they muſt be potted, and plunged into a bark-bed, were they will flower and perfect their ſeeds; though if they are removed into the Stove in the autumn, the plants may be continued for two or three years.

Longifolia. 1. The firſt ſpecies is titled, *Barleria ſpinis verticillorum ſenis, foliis enſiformibus longiſſimis ſcabris.* Plukenet calls it, *Anchuſa anguſtifolia, verticillis longis aculeis armatis.* It grows naturally in India.

2. The ſecond ſpecies is titled, *Barleria ſpinis axillaribus, foliis lanceolatis denticulatis.* Plumier calls it, *Barleria aculeata, ſolani folio anguſtiore, flore cæruleo.* It grows naturally in America. Solanifolia.

3. The third ſpecies is titled, *Barleria ſpinis axillaribus oppoſitis ſolitariis, foliis ſubrotundis integerrimis.* Amman calls it, *Barleria Americana ſpinoſiſſima fruteſcens, buxi foliis.* It grows naturally in both the Indies. Buxifolia.

4. The fourth ſpecies is titled, *Barleria inermis, foliis ovatis denticulatis petiolatis.* Plumier calls it, *Barleria ſolani folio, flore coccineo.* It grows naturally in America. Coccinea

5. The fifth ſpecies is titled, *Barleria foliis oblongis integerrimis, calycis foliolis duobus latioribus ciliatis, duobuſque linearibus acutis.* Moriſon calls it, *Melampyro cognata Maderaſpatenſis, quam ipſe habui.* It grows naturally in India. Cristata,

6. The ſixth ſpecies is titled, *Barleria ſpinis axillaribus quaternis, foliis integerrimis.* In the *Hortus Cliffort.* it is termed, *Prionitis.* Van Royen calls it, *Barleria foliis integerrimis, ſpinis lateralibus*; Plukenet, *Melampyro cognata Maderaſpatana, ſpinis horrida*; and Rumphius, *Hyſtrix frutex.* It grows naturally in India. Prionitis.

Barleria is of the Claſs and Order *Didynamia Angioſpermia*; and the characters are, Claſs and Order in the Linnæan Syſtem.

The characters.

1. CALYX is a permanent perianthium, divided into four parts.

2. COROLLA is one funnel-ſhaped petal, cut into five nearly equal ſegments.

3. STAMINA are four filiforme filaments, of which two are much ſhorter than the others, having oblong antheræ.

4. PISTILLUM conſiſts of an oval germen, a filiforme ſtyle the length of the ſtamina, and a bifid ſtigma.

5. PERICARPIUM is an acute, compreſſed, quadrangular capſule, containing two cells, and opening with an elaſtic force for the diſcharge of the ſeeds when ripe.

6. SEMINA. The ſeeds are two, roundiſh and compreſſed.

CHAP. XXV.

BASELLA, MALABAR NIGHT-SHADE.

Species. THE ſpecies of this genus are,

1. Red Malabar Night-ſhade.
2. White Malabar Night-ſhade.

Red Malabar 1. Red Malabar Night-ſhade. The ſtalk is climbing, thick, tender, of a deep red or purple colour, ſends out numerous branches from the ſides, will twiſt about contiguous trees, and arrive to the height of eight or ten feet. The leaves are roundiſh, heart-ſhaped, flat and ſucculent. The flowers come out in great plenty from the ends and ſides of the branches; they are of a reddiſh purple colour, appear in June, and continue in ſucceſſion until the autumn, by which time ripe ſeeds from the firſt-blown flowers may be gathered.

and White Malabar Night-ſhade deſcribed. 2. White Malabar Night-ſhade. The ſtalk is herbaceous, climbing, and of a green colour. The leaves are oval, and waved on their edges. The flowers are produced from the ends and ſides of the branches, on ſimple footſtalks; they are of a white colour, appear in June, continue in ſucceſſion for three or four months, and the ſeeds ripen in the autumn.

Culture. Theſe are eaſily propagated by cuttings, which, if planted in pots filled with light earth, and then plunged into a hotbed of tanner's bark, will readily grow. They may be continued in the bark bed, allowing them much air in very hot weather, until the autumn, and then be taken into the bark Stove; when a trellis ſhould be formed for their ſupport, or proper ſtakes thruſt down for them to wind about; otherwiſe they will entangle themſelves with whatever trees or plants are near them.

They are alſo raiſed by ſeeds; and as they ripen very well in England, it is the moſt general method of raiſing theſe plants. The ſeeds muſt be ſown on a hotbed in the ſpring, and when the plants are four or five inches high, they muſt be ſet ſeparately in pots, and managed as the cuttings.

Titles. 1. The firſt ſpecies is titled, *Baſella foliis planis, pedunculis ſimplicibus.* In the *Hortus Cliffort.* it is termed, *Cuſcuta foliis ſubcordatis.* Rheede calls it, *Baſella*; and Rumphius, *Gandola rubra.* It grows naturally in India.

Rubra.

Alba.

2. The ſecond is titled, *Baſella foliis ovatis undatis, pedunculis ſimplicibus folio longioribus.* Plukenet calls it, *Mirabili Peruvianæ affinis tinctoria, bætæ folio, ſcandens.* It grows naturally in China and Amboyna.

Claſs and Order in the Linnæan Syſtem. *Baſella* is of the Claſs and Order *Pentandria Trigynia*; and the characters are,

The characters.

1. CALYX. There is none.

2. COROLLA is urceolated, and deeply cut into ſeven ſegments, which are fleſhy at their baſe, and connivent towards the top.

3. STAMINA are five awl-ſhaped, equal filaments, growing to the corolla, and ſomewhat ſhorter than it, having roundiſh antheræ.

4. PISTILLUM conſiſts of nearly a globular germen, and three filiforme ſtyles, with oblong ſtigmas.

5. PERICARPIUM. The permanent, fleſhy, corolla cloſes, and aſſumes the appearance of a fleſhy berry.

6. SEMEN. The ſeed is ſingle, and roundiſh.

CHAP. XXVI.

BAUHINIA.

THIS genus comprehends the following ſpecies:

Species.
1. Climbing *Bauhinia.*
2. Aculeated *Bauhinia.*
3. Divaricated *Bauhinia.*
4. Ungulated *Bauhinia.*
5. Variegated *Bauhinia.*
6. Purple *Bauhinia.*
7. Tomentoſe *Bauhinia.*
8. Acuminated *Bauhinia.*

Climbing, 1. Climbing *Bauhinia.* The ſtalks are ſlender, poſſeſſed of tendrils to aſſiſt them to climb, and riſe to a great height. The leaves are heart-ſhaped, deeply cut into two pointed lobes, and grow alternately on long footſtalks. I have not yet met with its flowers in any of our Stoves; and I am informed that they very rarely ſhew themſelves in India, where the plant naturally grows.

Aculeated, 2. Aculeated *Bauhinia.* The ſtem is woody, armed with ſtrong ſpines, divides irregularly into branches, and grows to about fifteen or ſixteen feet high. The leaves are roundiſh, obtuſe, and indented at the top. The flowers are produced in ſpikes from the ends and ſides of the branches; they are of a yellow colour, and are ſucceeded by long taper pods containing the ſeeds, which do not ripen in England.

Divaricated, 3. Divaricated *Bauhinia.* The ſtem is woody, divides into many branches, and grows to be ſix or eight feet high. The leaves are of an oval figure, and divide into two lobes, which ſpread aſunder from each other. The flowers are produced in panicles from the ends of the branches; they are of a white colour, and finely ſcented; they appear early in the ſummer, and continue in ſucceſſion until the autumn; but the ſeeds rarely ripen in England.

Ungulated, 4. Ungulated *Bauhinia.* The ſtem is woody, robuſt, and divides irregularly into many branches. The leaves are oval, oblong, and are divided into two lobes, which run parallel to each other. The flowers are numerous at the extremity of the branches; they appear great part of the ſummer, but are ſeldom ſucceeded by pods in England.

Variegated, 5. Variegated *Bauhinia.* The ſtem is woody, robuſt, branching, and twenty or thirty feet high. The leaves are heart-ſhaped, and conſiſt of two obtuſe lobes cloſed together. The flowers are produced in panicles from the extremity of the branches; they are large, of a red colour beautifully variegated with yellow and purple, and finely ſcented; they appear moſt part of the ſummer, but are not ſucceeded by pods in England.

Purple, 6. Purple *Bauhinia.* The ſtem is woody, firm, and branching. The leaves are nearly heart-ſhaped, divided into two rounded lobes, and are downy on their underſide. The flowers are of a reddiſh purple colour, but the ſeeds do not ripen in England.

Tomentoſe, 7. Tomentoſe *Bauhinia* is a robuſt, branching tree, twenty feet high, or upwards. The leaves are tomentoſe, heart-ſhaped, divided into two roundiſh lobes, and, when bruiſed, emit a very ſtrong odour. The flowers are large, and of a yellowiſh colour, having a mixture of white; they appear in the ſummer, but are rarely ſucceeded by pods in England.

and Acuminated Bauhinia deſcribed. 8. Acuminated *Bauhinia.* This ſpecies is a branching tree, fifteen or twenty feet high. The leaves are oval, and divided into two acuminated lobes. The flowers are produced in looſe ſpikes from the ends of the branches; they are of a white colour, and continue in ſucceſſion a long time.

Culture. Theſe are propagated by ſeeds, procured from the places where they naturally grow. They muſt be ſown in pots, filled with light, rich earth, and muſt then be plunged into a hotbed of tanner's bark. If the ſeeds are good, they will readily come up; and when the plants are about four or five inches high, each muſt have a ſeparate pot, and be watered and ſhaded until they have taken root. In this bed they may remain, with the uſual care of tender plants, until the autumn; when they ſhould be taken into the warmeſt Stove, and conſtantly be kept in the bark-bed there, where they will frequently flower, but very rarely perfect their ſeeds.

Titles. 1. The firſt ſpecies is titled, *Bauhinia caule cirrhifero.* Ray calls it, *Clematis Indica, folio bifido, flore fructuque carens*; and Rumphius, *Folium linguæ.* It grows naturally in Malabar, Amboyna, and Cumana.

Scandens.

2. The ſecond ſpecies is titled, *Bauhinia caule aculeato.* Plumier calls it, *Bauhinia aculeata,*

Aculeata.

folio rotundo & emarginato. It is a native of the warmer parts of America.

Divaricata 3. The third ſpecies is titled, *Bauhinia foliis ovatis: lobis divaricatis.* Van Royen calls it, *Bauhinia foliis quinquenerviis: laciniis acuminatis remotiſſimis*; and Plumier, *Bauhinia non aculeata, folio ampliori & bicorni.* It grows naturally in America.

Ungulata. 4. The fourth ſpecies is titled, *Bauhinia foliis ovatis: lobis parallelis.* In the *Hortus Cliffort.* it is termed, *Bauhinia foliis ovatis oblongis rectâ lineâ bifidis.* It grows naturally in America.

Variega=ta. 5. The fifth ſpecies is titled, *Bauhinia foliis cordatis: lobis coadunatis obtuſis.* Zanoni calls it, *Arbor ſ. Thomæ ſ. Aſſitra.* It grows naturally in the ſandy parts of Malabar and Madeira.

Purpurea. 6. The ſixth ſpecies is titled, *Bauhinia foliis ſubcordatis bipartitis rotundatis ſubtus tomentoſis.* It inhabits the ſandy parts of India.

Tomentosa 7. The ſeventh ſpecies is titled, *Bauhinia foliis cordatis: lobis ſemi-orbiculatis tomentoſis.* Van Royen calls it, *Bauhinia foliis cordato-ſubrotundis: laciniis rotundatis*; Burman, *Bauhinia foliis ſubrotundis, flore flaveſcente ſtriato*; and Plukenet, *Mandaran Mader aſpatenſe, foliis firmioribus biſulcis glabritie ſplendentibus.* It grows naturally in India.

Acumina=ta. 8. The eighth ſpecies is titled, *Bauhinia foliis ovatis: lobis acuminatis ſemi-ovatis.* In the *Hortus Cliffort.* it is termed, *Bauhinia inermis, foliis cordatis ſemibifidis: laciniis acuminato-ovatis erectis dehiſcentibus.* Brown calls it, *Bauhinia foliis bilobis, ſpicis laxis terminalibus*; and Sloane, *Sennæ ſpuriæ aut aſphalto affinis arbor ſiliquoſa, foliis bifidis.* It grows naturally in both the Indies.

Claſs and Order in the Linnæan Syſtem. The characters.

Bauhinia is of the Claſs and Order *Decandria Monogynia*; and the characters are,

1. Calyx is an oblong, reclined perianthium, opening longitudinally on the under-ſide, and compoſed of five leaves, which are ſeparate at their baſe, but cohere at their upper part.

2. Corolla is five ſpear-ſhaped, undulated, reflexed petals, having ungues the length of the calyx.

3. Stamina are ten declinated filaments, nine of which are ſhorter than the corolla, but the tenth is very long. The antheræ are oval, and one always crowns the tenth filament; but they are ſeldom found on the others.

4. Pistillum conſiſts of an oblong germen ſitting on a pedicle, a filiforme, declining ſtyle, and an obtuſe, aſſurgent ſtigma.

5. Pericarpium is a long taper pod, containing one cell.

6. Semina. The ſeeds are many, roundiſh, and compreſſed.

CHAP. XXVII.

BELLONIA.

THIS genus conſiſts of one ſpecies only, called *Bellonia.*

The plant deſcribed.

The ſtem is woody, ſends forth ſeveral branches from the ſides, and grows to be ten or twelve feet high. The leaves are oval, rough, ſerrated, and grow oppoſite to each other on ſhort footſtalks. The flowers come out in roundiſh bunches from the ends and ſides of the branches; they appear in the ſummer; and ſometimes the ſeeds (tho' very rarely) ripen in the autumn.

Culture.

Theſe are propagated by planting cuttings, in any of the ſummer months, in pots filled with light, rich earth. The pots muſt be plunged up to the rims in a bark-bed, and the cuttings muſt be watered and ſhaded until they have taken root; after that they muſt have much air, eſpecially in warm weather; and in the autumn they muſt be taken into the bark Stove, where they ſhould conſtantly reſide.

They are alſo raiſed by ſeeds. Theſe ſhould be ſown in pots filled with light earth, and be plunged in a hotbed to facilitate their growth. When the plants are three or four inches high, each muſt be ſet in a ſeparate pot, and managed like the cuttings, ſhifting them from time to time into larger pots, as they ſhall require it.

Titles. Aspera.

There being no other ſpecies of this genus, it is termed ſimply, *Bellonia.* Plumier calls it, *Bellonia fruteſcens, folio meliſſæ aſpero.* It grows naturally in America.

Claſs and Order in the Linnæan Syſtem. The characters.

Bellonia is of the Claſs and Order *Pentandria Monogynia*; and the characters are,

1. Calyx is a monophyllous, permanent perianthium, placed above the germen, and cut into five ſpear-ſhaped, acute ſegments.

2. Corolla is one rotated petal. The tube is very ſhort. The limb is plane, and cut into five large, obtuſe ſegments.

3. Stamina are five very ſhort, erect, awl-ſhaped filaments, with erect, ſhort, connivent antheræ.

4. Pistillum conſiſts of a germen ſituated below the calyx, a ſtrait, awl-ſhaped ſtyle longer than the ſtamina, and an acute ſtigma.

5. Pericarpium is an oval, turbinated capſule, ſurrounded by the calyx, and containing one cell.

6. Semina. The ſeeds are numerous, ſmall, and roundiſh.

CHAP. XXVIII.

BESLERIA.

THIS genus comprehends the ſpecies called,

Species. 1. Baſtard Baulm-leaved *Beſleria.*

2. Yellow *Beſleria.*

3. Criſted *Beſleria.*

Baulm-leaved, 1. Baulm-leaved *Beſleria.* The ſtalk is ligneous, ſmooth, and jointed. The leaves are oval, nervoſe, crenated, and grow oppoſite to each other at the joints. The flowers come out from the wings of the leaves, on branching footſtalks; they appear in July and Auguſt, and ſometimes the ſeeds ripen in the autumn.

Yellow, 2. Yellow *Beſleria.* The ſtalk is ligneous, branching irregularly near the top; and ſix or ſeven feet high. The leaves are ſpear-ſhaped, veined on their underſide, and ſerrated on their edges. The flowers are produced ſingly on footſtalks, which come out in cluſters from the wings of the leaves; they are ſmall, of a yellow colour, and are ſucceeded by ſoft round berries encloſing the ſeeds, which ſometimes ripen in England.

and Criſted Beſleria deſcribed. 3. Criſted *Beſleria.* The ſtalks lie on the ground, and ſtrike root at the joints. The leaves are oval, ſerrated, veined, and grow oppoſite to each other on ſhort footſtalks. The flowers come out on ſingle footſtalks, from the wings of the leaves; they are of an irregular ſhape, hairy on their outſide, and have a large five-leaved involucrum; the berries that ſucceed them are of a black colour when ripe.

Culture. All theſe plants are raiſed by ſowing the ſeeds on a hotbed in the ſpring. When the plants are three inches high, they muſt be planted ſeparately in pots, filled with light, rich earth. They muſt be then plunged into a freſh hotbed, and watered and ſhaded until they have taken root; after that, they muſt have plenty of air, eſpecially in hot weather; and if the roots have filled the pots, they muſt be ſhifted into larger, plunging them up to the rims in the bed as before. In the autumn they muſt be taken into the bark Stove, and be frequently watered during the winter. As the hot weather the ſucceeding ſummer comes on, the repetition of watering muſt be oftener, and in greater quantities; a large ſhare of air muſt be granted them, but they muſt not be taken out of the Stove; and here they will flower in their ſecond ſummer, and frequently perfect their ſeeds.

Titles, 1. The firſt ſpecies is titled, *Beſleria pedunculis ramoſis, foliis ovatis.* Plumier calls it, *Beſleria meliſſæ tragi folio.* It grows naturally in America. Melittifolia.

2. The ſecond ſpecies is titled, *Beſleria pedunculis ſimplicibus confertis, foliis lanceolatis.* Plumier calls it, *Beſleria, virgæ aureæ foliis, flore luteo, minor*; alſo, *Beſleria, virgæ aureæ foliis, flore luteo, major.* It grows naturally in America. Lutea.

3. The third ſpecies is titled, *Beſleria pedunculis ſimplicibus ſolitariis, involucris pentaphyllis propriis.* Plumier calls it, *Beſleria ſcandens criſtata, fructu nigro.* It grows naturally in America. Cristata.

Claſs and Order in the Linnæan Syſtem. *Beſleria* is of the Claſs and Order *Didynamia Angioſpermia*; and the characters are,

The characters. 1. CALYX is a monophyllous perianthium, divided into five erect, acute parts.

2. COROLLA is one ringent petal. The tube is the length of the calyx. The limb is cut into five roundiſh ſegments, of which the lower one is the largeſt, and the two upper ones are leſs divided.

3. STAMINA are four filaments within the tube of the corolla; of which two are a little ſhorter than the others, having oblong, didymous, dependent antheræ.

4. PISTILLUM conſiſts of a globular germen, an awl-ſhaped, erect ſtyle, and a bifid, obtuſe ſtigma.

5. PERICARPIUM is a globular berry, containing one cell.

6. SEMINA. The ſeeds are numerous, round, and ſmall.

CHAP. XXIX.

BIDENS, WATER HEMP AGRIMONY.

THE ſpecies of this genus are moſtly Annuals; but there is one ſort of it that will continue for a few years, with proper management in the Stove: It is called the Climbing *Bidens.*

The plant deſcribed. It hath a ſhrubby, ſlender, climbing ſtalk, that will grow to be ten feet long. The leaves are of an oval figure, ſharp-pointed, entire, and grow oppoſite by pairs at the joints. The flowers are produced in panicles from the ſides and ends of the branches; their colour is yellow; they will be in blow in June or July, and ſometimes will perfect their ſeeds in October.

Culture. This is propagated by ſowing the ſeeds on a moderate hotbed in March. The plants will readily come up; and when the heat of this firſt bed abates, they ſhould be pricked out into a ſecond, covered with good light earth, at about four inches diſtance from each other. During their ſtay in this bed they muſt be frequently watered, and muſt always have ſufficient air to prevent their drawing weak. As the heat of this bed declines, another hotbed muſt be prepared; then the plants muſt be taken up with a ball of earth to each root, and ſet in ſeparate pots: Theſe pots muſt be ſet upon this hotbed, and the vacancies filled with any common garden mould up to the rims of the pots. The plants muſt be then well watered, and ſhaded with mats until they have taken root; the watering muſt be continued all ſummer, as there ſhall be occaſion; the plants muſt be hardened by degrees to the open air; and in July the glaſſes may be entirely taken off: In this manner, they may ſtand until the autumn, when they muſt be removed into the Stove. The ſummer following they will flower, and ſometimes produce ſeeds; but as theſe plants ſeldom live longer than three or four years, if you chooſe to keep up the ſtock, ſowing of the ſeeds at proper intervals muſt not be neglected.

Title. Scan=dens. The Climbing *Bidens* is titled, *Bidens foliis oppoſitis ovatis acuminatis integerrimis, caule ſcandente fruticoſo, floribus oppoſitis paniculatis.* It is a native of Vera Cruz.

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C H A P. XXX.

BIGNONIA, The SCARLET JESSAMINE or TRUMPET FLOWER.

THE ſpecies of this genus proper for the Stove are,

Species.

1. Downy Trumpet-flower.
2. Triphyllous Trumpet-flower.
3. Pentaphyllous Trumpet-flower.
4. *Leucoxylon*, or Digitated Trumpet-flower.
5. Radiated Trumpet-flower.
6. Upright Yellow Trumpet-flower.
7. Paniculated Trumpet-flower.
8. Baſtard Dog's Bane.

Downy, 1. Downy Trumpet Flower climbs upon trees in its native country, and diſplays its flowers among the branches and at the tops of trees that are upwards of thirty feet high. The leaves are heart-ſhaped, oval, downy, yellowiſh underneath, and grow by fours at the joints. The flowers come out in looſe panicles from the ends of the branches; they are large, of a pale yellow colour, and are ſucceeded by flat pods, about a foot in length, containing the ſeeds.

Triphyllous, 2. Triphyllous Trumpet-flower. The ſtem of this ſpecies is upright, woody, covered with an aſh-coloured bark, ſends out many branches from the ſides, and riſes to about two feet high. The leaves are trifoliate, oval, ſmooth, ſharp-pointed, and grow oppoſite to each other at the joints. The flowers are produced from the ends of the branches in looſe panicles; their colour is white, and they are ſucceeded by long, narrow, flat pods, containing the ſeeds.

Pentaphyllous, 3. Pentaphyllous Trumpet-flower. The ſtem of this ſpecies is upright, and ſends out many branches, which are covered with a whitiſh bark. The leaves are digitated, each being compoſed of five oval, ſtiff, entire folioles, which join at their baſe; they are of a pale green colour, whitiſh underneath, and grow oppoſite on long footſtalks at the joints. The flowers come out, four or five together, from the ends of the branches, on ſhort footſtalks; they are of a whitiſh blue colour, very fragrant, and are ſucceeded by crooked pods, containing the ſeeds. There is a variety of this ſpecies with white, and another with roſe-coloured flowers.

Leucoxylon, or Digitated, 4. *Leucoxylon*, or Digitated Trumpet-flower. This ſpecies riſes with an upright, woody, branching ſtem, to thirty or forty feet high. The leaves are digitated, and the folioles are oval, pointed, entire, and on ſome are four in number, on others five; and at the extremities of the branches the leaves are ſimple, and grow oppoſite by pairs on long footſtalks. The flowers come out ſingly from the wings of the leaves; their tubes are very long, and their borders are fringed; they are of a white colour, are finely ſcented, and are ſucceeded by longiſh pods, containing the ſeeds.

Radiated, 5. Radiated Trumpet-flower. The ſtalk of this ſpecies is woody, branching, and fourteen or fifteen feet long. The leaves are digitated, radiated, and beautifully cut into ſeveral narrow parts. The flowers come out from the wings of the leaves towards the ends of the branches; their colour is yellow, and they are ſucceeded by two valved pods, containing the ſeeds.

Upright Yellow, 6. Upright Yellow Trumpet-flower. The ſtem of this ſpecies is robuſt, woody, upright, ſends out many branches from the ſides, and grows to be twelve feet high. The leaves are pinnated, each being compoſed of ſix pair of long, ſpear-ſhaped, pointed, ſerrated folioles, terminated by an odd one; and they grow oppoſite by pairs at the joints. The flowers come out in looſe panicles from the ends of the branches; their colour is yellow; and they are ſucceeded by pods, near half a foot long, containing the ſeeds.

and Paniculated Trumpet-flower deſcribed. 7. Paniculated Trumpet-flower. The ſtalks of this ſpecies are ligneous, weak, ſlender, and climb by their tendrils upon whatever is near them. The leaves are conjugate, two growing at each joint oppoſite; they have pretty long footſtalks, and the folioles are heart-ſhaped, entire, and downy on their underſide. The flowers grow in panicles from the ends of the branches; they are of a fine violet colour, highly ſcented, and are ſucceeded by an hard, oval, ligneous pod, containing the ſeeds.

Baſtard Dog's Bane deſcribed. 8. Baſtard Dog's Bane. This ſpecies hath a rough, winding ſtalk, which will twine about any thing that is near it. The leaves come out by pairs on each ſide the ſtalk oppoſite, attended by tendrils, which enable the plant the better to riſe, and entangle itſelf with other trees; they are heart-ſhaped, ſmooth, and grow on ſhort footſtalks. The flowers come out in cluſters from the wings of the leaves; they are of a pale yellow colour, and are ſucceeded by flat pods, nearly a foot long.

Culture. All theſe plants are beſt propagated from ſeeds; but as they rarely ever ripen in England, they muſt be procured from the countries where they naturally grow. Having obtained them, they ſhould be ſown in pots, filled with light, freſh earth; which pots, being plunged up to the rims in a hotbed, will effectually bring up the ſeeds. When the plants are fit to remove, they ſhould be carefully ſhook out of the pots with the mould, each ſhould be ſet in its own ſeparate ſmall pot, and they ſhould be plunged into a ſecond hotbed. Here they muſt be watered and ſhaded, and they will ſoon take root. As the hot weather encreaſes, they muſt have proportionally more air; but this muſt be given them ſparingly, and with great caution, for they are tender at that ſeaſon; watering

alſo

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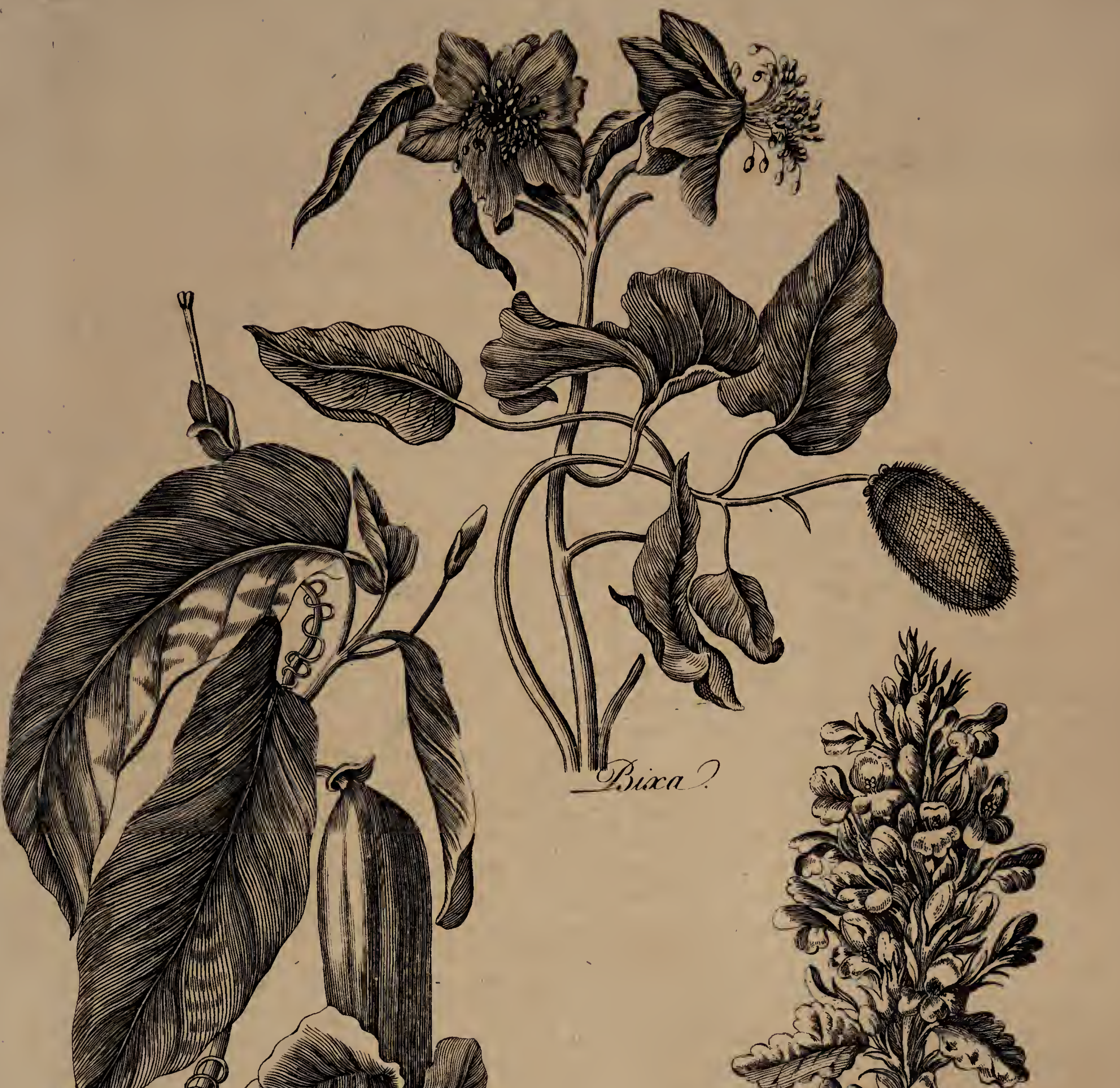

Bixa.

Quadrifoliate Bignonia.

Oriental Betony.

watering alſo in ſmall quantities muſt be frequently afforded them. In the autumn they ſhould be removed into the warmeſt Stove, where they ſhould conſtantly remain: Little water ſhould be allowed them in winter, but in hot weather in ſummer it ſhould be frequently given them. Some of the ſorts will flower about three years from the ſeeds, others longer; they are all exceeding beautiful by their flowers, refreſhing by their odours, and the large pods of many of them have a ſingular effect, although they do not ripen their ſeeds here.

Theſe plants are alſo to be encreaſed by cuttings. Theſe ſhould be ſet in pots filled with light earth, plunged up to the rims in the bark bed; and if they are well watered and kept conſtantly ſhaded, they will ſoon ſtrike root, and may be afterwards managed like the ſeedlings.

Titles.

Pubescens. 1. Downy Trumpet-flower is titled, *Bignonia foliis conjugatis cirroſis: foliolis cordato-ovatis ſubtus pubeſcentibus.* It is a native of Campeachy.

Triphylla. 2. Triphyllous Trumpet-flower is titled, *Bignonia foliis ternatis: foliolis ovatis acuminatis, caule fruticoſo erecto.* It grows naturally in New Spain.

Pentaphylla. 3. Pentaphyllous Trumpet-flower is titled, *Bignonia foliis digitatis: foliolis integerrimis obovatis.* Plumier calls it, *Bignonia arbor pentaphylla, flore roſeo, major & minor, ſiliquis planis.* Sloane, *Nerio affinis arbor ſiliquoſa, folio palmato ſ. digitato, flore albo.* It grows naturally in moiſt places in Jamaica and the Caribbees.

Leucoxylon. 4. *Leucoxylon*, or Digitated Trumpet-flower, is titled, *Bignonia foliis digitatis: foliolis integerrimis ovatis acuminatis.* In Miller's Dictionary it is termed, *Bignonia foliis imis digitatis, ſuperioribus ſimplicibus ſ. ternatis, caule erecto arboreo.* Plukenet calls it, *Leucoxylon arbor ſiliquoſa, quinis foliis, floribus nerii, alato ſemine.* It grows naturally in America.

Radiata. 5. Radiated Trumpet-flower is titled, *Bignonia foliis digitatis: foliolis pinnatifidis.* Fewil calls it, *Bignonia foliis digitatis, foliis radiatis, & elegantiſſime diſſectis.* It grows naturally in Peru.

Stans. 6. Upright Yellow Trumpet-flower is titled, *Bignonia foliis pinnatis: foliolis ſerratis, caule erecto firmo, floribus racemoſis.* Brown calls it, *Bignonia fruticoſa, foliis pinnatis ovatis, floribus luteis*; Plumier, *Bignonia arbor, flore luteo, fraxini folio*; Sloane, *Apocyno affine Gelſeminum Indicum hederaceum fruticoſum minus.* It inhabits the warmer parts of America.

Paniculata. 7. Paniculated Trumpet-flower is titled, *Bignonia foliis conjugatis cirroſis: foliolis cordato-ovatis, floribus racemoſis, pedunculis trifloris.* Plumier calls it, *Bignonia ſcandens bifolia, flore violaceo odoro, fructu ovato duro.* It grows in the warmer parts of America.

Crucigera. 8. Baſtard Dog's Bane is titled, *Bignonia foliis conjugatis cirroſis: foliis cordatis, caule muricato.* Gronovius calls it, *Bignonia ſcandens, flore atro flavo minori ſubtus albicante*; Plumier, *Bignonia ſcandens bifolia & trifolia, ligno cruce ſignato*; and Moriſon, *Pſeudo-apocynum folliculis maximis obtuſis, ſeminibus ampliſſimis, alis membranaceis.* It grows naturally in South America.

CHAP. XXXI.

BIXA.

THERE is only one ſpecies of this genus, called by ſome *Anotta*, by others the Roucou Tree.

The plant deſcribed. The ſtem is robuſt, upright, ſends out many branches, forms a regular head at the top, and grows to be ten or fifteen feet high. The leaves are heart-ſhaped, pointed, and grow alternately on long footſtalks. The flowers are produced in panicles from the ends of the branches; they are large, and of a whitiſh or pale-red colour, and are ſucceeded by a large, pulpy, red fruit, which is of great requeſt among dyers and painters.

Culture. This is raiſed by ſowing the ſeeds in the ſpring, in pots filled with light, rich earth, and plunging them into the hotbed; about a month will bring them up; and when they are three inches high, each muſt be ſet in a ſeparate pot, filled with the like kind of rich, light earth. They muſt be watered and ſhaded at firſt, and muſt afterwards have plenty of free air, and watering every other day; but they muſt not be taken out of the bed until the autumn, when they ſhould be removed into the warmeſt ſtove, plunging them up to the rims in the bark-bed, where they ſhould conſtantly remain, giving them little water in winter, but conſtant and regular waterings, and much air in hot weather in ſummer.

There being no other ſpecies of this genus it is named ſimply, *Bixa.* Plukenet calls it, *Orleana ſ. Orellana folliculis lappaceis*; Caſpar Bauhine, *Arbor Mexicana, fructu caſtaneæ, coccifera*; and Sloane, *Urucu.* It grows naturally by waters in the warmeſt parts of America.

Orellana. Titles.

Claſs and Order in the Linnæan Syſtem. *Bixa* is of the Claſs and Order *Polyandria Monogynia*; and the characters are,

The characters. 1. CALYX is a ſmall, obtuſe, plane, permanent perianthium, having five indentures at the top.

2. COROLLA is double; the exterior conſiſts of five large, oblong, equal, thickiſh petals; the interior of five petals, like thoſe of the exterior, but narrower, and of a thinner conſiſtence.

3. STAMINA are numerous ſetaceous filaments, half the length of the corolla, having erect antheræ.

4. PISTILLUM conſiſts of an oval germen, a filiforme ſtyle the length of the ſtamina, and a parallelly bifid, compreſſed ſtigma.

5. PERICARPIUM is an oval, heart-ſhaped, compreſſed capſule, ſurrounded with ſtiff, ſharp hairs, formed of two valves, containing one cell, and opening in the angles.

6. SEMINA. The ſeeds are oval, and turbinated.

The receptacle is linear, and grows longitudinally to the middle of the valves.

CHAP. XXXII.

BLAKEA.

THERE is only one ſpecies of this genus, called, *Blakea*.

The plant deſcribed. The ſtalk is woody, and divides into many branches near the top. The leaves are oblong, oval, entire, trinervous, and grow oppoſite to each other on footſtalks. The flowers are produced ſingly on footſtalks, oppoſite to each other, along the ſides of the branches, and are ſucceeded by oval capſules, containing the ſeeds.

Culture. This is propagated by planting the cuttings in pots in the ſpring, and plunging them into a hotbed of tanner's bark; they muſt be watered and kept ſhaded at firſt, and when they have taken root, muſt have proportionally a larger ſhare of air, according to the heat of the ſeaſon. They may be kept in this bed until the autumn, obſerving to grant them regular ſupplies of water; and then muſt be taken into a good bark ſtove, where they muſt conſtantly remain.

They are alſo propagated by ſeeds. Theſe muſt be ſown on a good hotbed in the ſpring; and when the plants come up, all the care due to tender ſeedlings muſt be given them until they are three inches high: They are to be planted ſeparately in pots filled with light, rich earth, and be plunged into a hotbed of tanner's bark, and afterwards managed like the cuttings.

There being no other ſpecies belonging to this genus, it is named ſimply, *Blakea*. Brown calls it, *Blakea foliis ellipticis trinerviis nitidis, floribus lateralibus*. It grows naturally in Jamaica. Titles. Triner-via.

Blakea is of the Claſs and Order *Dodecandria Monogynia*; and the characters are, Claſs and Order in the Linnæan Syſtem. The characters.

1. CALYX. The perianthium of the fruit is ſituated below, and is compoſed of ſix oval, concave, patent leaves, as large as the flower.

The perianthium of the flower is ſituated above the other, and conſiſts of one entire, hexangular, membranaceous rim.

2. COROLLA is compoſed of ſix oval, patent, equal petals.

3. STAMINA are twelve awl-ſhaped, erect filaments, with triangular, depreſſed, concatenated antheræ.

4. PISTILLUM conſiſts of an oboval germen ſituated below the calyx of the flower, and crowned with the calycinal rim; an awl-ſhaped ſtyle the length of the flower, and an acute ſtigma.

5. PERICARPIUM is an oboval capſule, containing ſix cells.

6. SEMINA. The ſeeds are many.

CHAP. XXXIII.

BOCCONIA.

THIS genus conſiſts of one ſpecies only, called, *Bocconia*.

The plant deſcribed. The ſtem is woody, robuſt, ſtraight, branching near the top, ten or twelve feet high, and covered with a ſmooth, white bark. The leaves are ſometimes near a foot long, and half as broad, deeply ſinuated on their edges, of a glaucous colour, full of a yellow acid juice, and grow alternately on the branches. The flowers are produced in looſe ſpikes from the ends of the branches, and are frequently ſucceeded by ripe ſeeds in England.

Culture. This is raiſed by ſowing the ſeeds in the ſpring, in pots filled with light, ſandy, but rich earth, and plunging them into a hotbed of tanner's bark. Slight waterings muſt be afforded the pots both before and after the plants come up; and when they appear, air in all favourable opportunities muſt be granted them, to prevent their drawing up too weak. When they are about three or four inches high, they muſt be planted in ſeparate pots, obſerving to water them at this time, in order to ſettle the mould to the roots; repeat the watering as there ſhall be occaſion, and keep the plants ſhaded until they have taken root. After that they muſt have more air, be ſhifted into larger pots, if found neceſſary, plunging them into the barkbed as before; and in the autumn they muſt be taken into a warm bark ſtove, where they ſhould conſtantly reſide under all the care and good management due to tender plants.

There being no other ſpecies of this genus, it is named ſimply, *Bocconia*. Plumier calls it, *Bocconia ramoſa, ſphondylii folio tomentoſo*; Brown, *Bocconia ramoſa, foliis majoribus ſinuatis, racemis terminalibus*; and Sloane, *Chelidonium majus arboreum, foliis quercinis*. It grows naturally in Mexico and Jamaica. Titles. Frutes-cens.

Bocconia is of the Claſs and Order *Dodecandria Monogynia*; and the characters are, Claſs and Order in the Linnæan Syſtem. The characters.

1. CALYX is an oval, obtuſe, concave, caducous perianthium, compoſed of two leaves.

2. COROLLA. There is none.

3. STAMINA are twelve very ſhort filaments, with large, linear antheræ, the length of the calyx.

4. PISTILLUM conſiſts of a large, roundiſh, contracted, pedicellated germen, and one ſemibifid ſtyle, with ſimple, reflexed ſtigmas.

5. PERICARPIUM is nearly oval, attenuated on both ſides, compreſſed, contains one cell, and is full of pulp.

6. SEMEN. The ſeed is ſingle, and globular.

CHAP XXXIV.

BOERHAVIA, HOGWEED of the AMERICANS.

OF this genus are the four following ſpecies, called,

Species. 1. Erect *Boerhavia.*
2. Diffuſed *Boerhavia.*
3. Diandrous *Boerhavia.*
4. Climbing *Boerhavia.*

Erect, 1. Erect *Boerhavia.* The ſtalk is upright, ſmooth, jointed, ſends out ſeveral erect branches from the ſides, and grows to be two feet high. The leaves are oval, pointed, whitiſh underneath, and grow oppoſite to each other on longiſh footſtalks. The flowers are produced from the ends of the main ſtalk and ſide-branches in panicles; they are of a reddiſh purple colour, appear in July, and the ſeeds ripen in the autumn. There is a variety with greeniſh flowers.

Diffuſed, 2. Diffuſed *Boerhavia.* The ſtalks are many, jointed, diffuſed, ſpreading, and about a foot and half long. The leaves are oval, pointed, thickiſh, and of a ſmooth and gloſſy ſurface. The flowers come out from the wings of the leaves on long footſtalks; they are of a pale red colour, appear in July, and the ſeeds ripen in the autumn.

Diandrous, 3. Diandrous *Boerhavia.* The ſtalks are round, jointed, ſmooth, diffuſed, and ſpreading. The leaves are oval, pointed, ſmooth, and gloſſy. The flowers come out from the wings of the leaves on ſhort footſtalks; they are of a white colour, appear in July, and the ſeeds ripen in the autumn.

and Climbing Boerhavia deſcribed. 4. Climbing *Boerhavia.* The ſtalks are numerous, branching, climbing, and, if ſupported, will riſe to the height of ſix feet. The leaves are heart-ſhaped, and grow oppoſite at the joints on long footſtalks. The flowers come out in umbels from the ends of the branches; they are of a yellow colour, appear in July, and the ſeeds ripen in the autumn.

Theſe are Perennials in their native countries, but in England are of ſhort duration, except the laſt ſort, which will ſometimes continue three or four years.

Culture. They are raiſed by ſowing the ſeeds early in the ſpring on a hotbed. When they are three inches high, each ſhould be ſet in a ſeparate pot, filled with rich, light, freſh earth; they are then to be plunged into a bark bed, and from thence are to be removed into the Stove, where they will flower and perfect their ſeeds.

Titles. 1. The firſt ſpecies is titled, *Boerhavia caule erecto glabro.* Amman calls it, *Boerhavia, ſolani folio, erecta glabra.* It is a native of Vera Cruz. Erecta

2. The ſecond ſpecies is titled, *Boerhavia caule diffuſo.* In the *Flora Zeylanica* it is termed, *Boerhavia diffuſa*; in the *Hortus Cliffort. Boerhavia foliis ovatis.* Herman calls it, *Valerianella Curaſſavica, ſemine aſpero viſcoſo.* It grows naturally in India. Diffusa

3. The third ſpecies is titled, *Boerhavia glabra diffuſa, floribus diandris.* It grows naturally in India. Diandra

4. The fourth ſpecies is titled, *Boerhavia caule ſcandente, floribus diandris.* Brown calls it, *Boerhavia ſarmentoſa.* Plukenet, *Solanum bacciferum Americanum fructu corymboſo*; Sloane, *Valerianella, alſines folio, ſcandens*; and Vaillant, *Antaniſophyllum ſcandens, alſines majoris folio.* It grows naturally in Jamaica. Scandens

Claſs and Order in the Linnæan Syſtem. *Boerhavia* is of the Claſs and Order *Monandria Monogynia*; and the characters are,

The characters.
1. Calyx. There is none.
2. Corolla is one bell-ſhaped, erect, pentangular, plicated, entire petal.
3. Stamina are one or two ſhort filaments, with a didymous, globular anthera.
4. Pistillum conſiſts of an oblong, angular germen, ſituated below the receptacle, a ſhort filiforme ſtyle, and a reniforme ſtigma.
5. Pericarpium. There is none.
6. Semen. The ſeed is ſingle, oblong, hexangular, and obtuſe.

CHAP. XXXV.

BOMBAX, SILK COTTON TREE.

THERE are three diſtinct ſpecies of this genus, called,

Species. 1. *Ceiba*, or Silk Cotton Tree, with a prickly Stem.
2. Pentandrous Silk Cotton Tree.
3. Heptaphyllous Silk Cotton Tree.

The plant deſcribed. Theſe trees are ſaid to grow in India to upwards of a hundred feet high. The ſtems are ſtraight, divide into numerous branches near the top, and, being large, and the wood light, are hollowed in India for making canoes. The ſtem of the firſt tree is armed with ſhort, ſtrong ſpines. The ſtem of the ſecond has no ſpines; and the third ſort is alſo unguarded with theſe weapons. The leaves of the firſt are compoſed of five ſpear-ſhaped folioles, which join at their baſe, and ſpread themſelves like the fingers of the hand. The leaves of the ſecond conſiſt of about nine long, narrow, ſpear-ſhaped folioles; and thoſe of the third of ſeven. The flowers adorn the ends of the branches early in the ſpring, before the leaves come out; they are of a purple colour, and in India are ſucceeded by large, oblong, ligneous capſules, full of the ſeeds and cotton.

Culture. Theſe are propagated by ſeeds, which muſt be procured from the countries where they naturally grow, for they do not ripen in England in our hotteſt ſtoves. They muſt be ſown in pots filled with light, freſh earth, and then be plunged into a hotbed of tanner's bark; the mould in the pots muſt be now and then watered, and in about a month the plants will come up. As much air as the weather will permit, to prevent their drawing weak, and frequent waterings muſt be granted them until they are three inches high; when they muſt be carefully ſhook out of the pots, and planted ſeparately in ſmall pots, filled with the like kind of freſh earth; they muſt be then plunged afreſh into the hotbed, be watered, and kept ſhaded until they have taken root. They muſt next have more air and frequent waterings, and in the autumn muſt be taken into the warmeſt bark ſtove, where they muſt conſtantly reſide, ſhifting them from time to time into larger pots as often as they ſhall require it, giving them little water in winter, but frequent waterings and much air in hot weather in ſummer.

Titles.

Ceiba.

1. The firſt ſpecies is titled, *Bombax floribus polyandris, foliis quinatis.* In the *Flora Zeylanica* it is termed, *Xylon foliis digitatis, caule aculeato.* In the *Hortus Cliffort.* it is termed, *Xylon caule aculeato.* Caſpar Bauhine calls it, *Goſſypium arboreum, caule ſpinoſo*; and Sloane, *Goſſypium arboreum maximum ſpinoſum, folio digitato, lanâ ſericeâ griſeâ.* It grows naturally in both the Indies.

Pentan-drum,

2. The ſecond ſpecies is titled, *Bombax floribus pentandris.* In the *Flora Zeylanica* it is termed, *Bombax foliis digitatis, caule inermi.* In the *Hortus Cliffort.* it is termed, *Xylon caule inermi.* Caſpar Bauhine calls it, *Goſſypium Javanenſe, ſalicis folio*; and Rumphius, *Eriophoros Javana.* It is a native of the Eaſt and Weſt Indies.

Hepta-phyllum.

3. The third is titled, *Bombax floribus polyandris, foliis ſeptenatis.* It grows naturally in America.

Claſs and Order in the Linnæan Syſtem. The characters.

Bombax is of the Claſs and Order *Monadelphia Polyandria*; and the characters are,

1. Calyx is a monophyllous, bell-ſhaped, permanent perianthium, cut at the top into five erect ſegments.

2. Corolla is divided into five oval, concave ſegments.

3. Stamina are five or more awl-ſhaped filaments the length of the calyx, and joined together at their baſe, having oblong, incurved, incumbent antheræ.

4. Pistillum conſiſts of a roundiſh germen, a filiforme ſtyle the length of the ſtamina, and a capitated ſtigma.

5. Pericarpium is a large, turbinated, oblong, ligneous capſule, formed of five valves, and containing five cells.

6. Semina. The ſeeds are many, roundiſh, and wrapped up in the cotton.

* * *

C H A P. XXXVI.

BONTIA, BARBADOES WILD OLIVE.

THIS genus at preſent conſiſts only of one ſpecies, called, Wild Olive of Barbadoes.

The plant deſcribed.

The ſtem of this plant is woody, firm, branching, and ten or twelve feet high. The leaves are oblong, narrow, ſlightly crenated on their edges, of a thickiſh conſiſtence, ſmooth, and continue green all the year. The flowers come out from the wings of the leaves along the ſides of the branches, and are ſucceeded by large, oval fruit, which ſometimes ripen in England.

Culture.

This is raiſed by cuttings, or ſeeds. The cuttings ſhould be planted in the ſpring, in pots filled with light, rich earth. They muſt be then plunged in a bark-bed, be watered, and kept ſhaded until they take root. After that they muſt have more air, eſpecially in hot weather, and be frequently watered all ſummer; and in the autumn muſt be taken into a cool bark ſtove, where they ſhould conſtantly remain, giving them little water in winter, and frequent waterings and much free air in ſummer.

They are alſo eaſily raiſed by ſeeds. Theſe ſhould be ſown on a hotbed in the ſpring; and when the plants are fit to remove, each ſhould have a ſeparate pot, be plunged into a bark-bed, and managed like the cuttings.

This ſpecies is cultivated in Barbadoes for making of hedges, where they form a very cloſe, thick, and beautiful hedge.

Titles.

Daphno-ides.

This being the only ſpecies of the genus, it is named ſimply, *Bontia.* Plumier calls it, *Bontia arboreſcens, thymeleæ facie*; Dillenius, *Bontia laureolæ facie*; and Plukenet, *Olea ſylveſtris Barbadenſis, folio anguſto pingui leviter crenato.* It grows naturally in America.

Claſs and Order in the Linnæan Syſtem. The characters.

Bontia is of the Claſs and Order *Didynamia Angioſpermia*; and the characters are,

1. Calyx is a ſmall, erect, obtuſe-pointed, permanent perianthium.

2. Corolla is one ringent petal. The tube is cylindrical, and long; the limb gaping. The upper lip is erect, and emarginated. The lower lip is the ſize of the upper lip, revoluted, and cut into three ſegments.

3. Stamina are four awl ſhaped filaments inclining to the upper lip, of which two are longer than the others, having ſimple antheræ.

4. Pistillum conſiſts of an oval germen, a ſimple ſtyle the length of the ſtamina, and a bifid, obtuſe ſtigma.

5. Pericarpium is a large, oval drupe.

6. Semen is an oval nut, containing one cell.

CHAP. XXXVII.

BROMELIA, PINE APPLE.

Species.

THE ſpecies of this genus are,

1. The Common Pine Apple of our Stoves.
2. The Wild Pine Apple called *Pinguin.*
3. The Wild Pine Apple called *Karatas.*
4. The Lingulated *Bromelia.*
5. The Pyramidal *Bromelia.*

1. The Common Pine Apple of our Stoves admits of ſeveral varieties, which have all been accidentally obtained from ſowing the ſeeds; and were we to be induſtrious in propagating this plant, it is paſt a probability, that new and ſtill more valuable ſorts might be introduced into our gardens.

The plant deſcribed.

The plant is a very ſtrong, robuſt Perennial. The root is thick, and ſends forth many fibres from the ſides of the bottom. The leaves are long, and ſharp-pointed; they are more or leſs prickly, and for the moſt part of a blueiſh tinge. The ſtalk is robuſt, round, and thick; it riſes from the center of the leaves, is of a pale green colour, and is uſually garniſhed with a few ſmall leaves: At the top of it ſtands an oval, roundiſh, or pyramidal ſubſtance, compoſed of many cluſtered tubercles, which ſupport the flowers, and has a crown of cluſtered leaves on its head. The flowers are of a blueiſh-purple colour, and grow ſingly on each tubercle: Each flower has a ſmall, three-cornered cup, cut at the top into three oval ſegments. The petals of the flowers are three, oval, ſpear-ſhaped, and larger than the ſegments of the cup; among theſe is a nectarium of three parts: The filaments are ſix in number, ſhort, have yellow antheræ, and the ſtyle is ſingle. As the flowers fade, the fruit ſwells, and advances towards perfection; and will not fail to give you ſtrong proofs of its being ſo, by the heightened fragrance it yields.

Wild Pine Apple, or Pinguin deſcribed.

2. Wild Pine Apple, or *Pinguin.* This is not ſo robuſt a plant as the former. The leaves are long, prickly, and ſharp-pointed. In the center of theſe riſes the ſtalk, which is upright, and uſually terminated by a cluſter of fruit, of an acid flavour. The juice is ſometimes uſed to mix in punch in the room of lemon; the plant is otherwiſe of little value, and is preſerved in our gardens only as a curioſity.

Wild Pine Apple, or Karatas deſcribed.

3. Wild Pine Apple, or *Karatas.* The leaves of this plant are very long, narrow, and ſtrongly armed with very ſharp, crooked thorns, which catch hold of every thing that comes near them. There is hardly any ſtalk, and the fruit is among the leaves, near the ground. The flowers are produced in cluſters.

Lingulated,

4. Lingulated *Bromelia.* The leaves of this ſpecies are narrow at their baſe, and widen gradually to the top, where they are broadeſt; their edges are ſharply ſerrated, they grow erect, and their colour is a deep-green. From the center of theſe the flower-ſtalk riſes, and divides into ſeveral branches near the top. The flowers are produced from the ſides of theſe branches in ſpikes, growing alternately; under each ſpike there is an entire leaf, that is larger than it; the flowers on the ſpikes ſit very cloſe, and are ſucceeded by an oval-pointed fruit, which contains the ſeeds.

and Pyramidal Bromelia deſcribed.

5. Pyramidal *Bromelia.* The leaves of this plant much reſemble thoſe of ſome of the Aloes. The edges of ſuch as immediately ariſe from the root are indented, and armed with ſtrong, black thorns; but thoſe on the branches are entire. The ſtalk will grow to about a yard high, and the leaves are placed alternately at the joints. The flowers grow from the upper parts of the ſtalks in kind of looſe ſpikes; they are of a greeniſh colour, and are ſucceeded by oval fruit, full of ſmooth, cylindrical ſeeds.

Culture.

The firſt ſort is that delicious fruit of our Stoves called The Pine Apple; and an ample account of its culture, in the front of the fruit that is brought to our table, is there given. The other ſorts, like that, are to be raiſed from ſuckers, which ſhould be potted, plunged up to the rims in the bark-bed, and treated nearly in the ſame manner, though they need not be ſhifted from Stove to Stove, like the Pine Apples. For a few plants only of each of theſe kinds are to be raiſed in one Stove alone; therefore, they may be trained from the firſt planting of the ſuckers until the time of flowering: And if we obſerve the management of the Pine Apple in the culture of theſe, we ſhall be pretty ſure of ſucceeding.

They are alſo raiſed by ſeeds; and as this method may be probably practiſed by ſome curious perſons, who may be deſirous of obtaining freſh ſorts of Pine Apples, I ſhall give the management of raiſing that fruit from ſeeds, and to which method of practice the raiſing all the other ſpecies of this genus may be brought.

The ſeeds muſt be procured from South America, or from ſuch hot parts of the world where the plants grow naturally, and ripen their ſeeds freely.

A good fat earth ſhould be provided for their reception, and they ſhould be ſown in pots filled with this rich mould, and covered a quarter of an inch deep. The pots ſhould be immediately plunged up to the rims in the bark-bed, and the next day ſhould have a moderate ſprinkling of water: This kind of watering ſhould be afforded the mould in the pots twice a week; and after the plants come up, they muſt have it at the ſame diſtance of time, but in rather larger quantities. As the ſummer advances, the pots ſhould be covered with mats in the heat of the day, to ſhade the ſeedling plants; and plenty of air on all favourable occaſions muſt be granted them. As the plants get larger, they will require a greater quantity of water at a time; and in doing of this be ſure to ſprinkle the plants all over, as well as water the roots, for this will both refreſh them, and give them a cleanly and healthy look.

With this management they will grow vigourouſly, and in a little time will be of proper ſize for being tranſplanted. When you find this, provide a quantity of the ſmalleſt-ſized pots; and having filled them with rich garden mould, let the ſeedlings be carefully taken up, and planted, one in each pot. This being effected, plunge the pots up to the rims in a freſh bark-bed, or, for want of this, in the ſame bark-bed, heated afreſh by the addition of new bark. At this time give them a very ſmall ſprinkling with water; then let them have it again in a larger quantity, the third day from the time of planting. From this time let them be watered twice a week all ſummer, have plenty of freſh air, and in the autumn be ſet up to the rims in the bark-bed in the large Stove. Their management afterwards is the ſame as the plants raiſed from the crowns and ſuckers of the Pine Apple.

Titles.

Ananas

1. The Common Pine Apple of our Stoves is titled, *Bromelia foliis ciliato-ſpinoſis mucronatis, ſpicâ comoſâ.* In the *Hortus Cliffort.* it is termed, *Bromelia foliis ſpinoſis, fructibus connatis caulem cingentibus.* Caſpar Bauhine calls it, *Carduus Braſilianus, foliis aloes*; Acoſta, *ananas*; Commeline, *Anana Acoſtæ*; and Rhumphius, *Anaſſa.* The varieties of this ſpecies have been taken for diſtinct ſpecies, and titled accordingly by former Botaniſts: One is called, *Ananas aculeatus, fructu ovato, carne albidâ*; another, *Anana aculeatus, fructu pyramidato: carne aureâ*; another, *Ananas aculeatus, fructu conico: carne aureâ*; another, *Ananas lucidè viridens, folio vix ſerrato*; and another, *Ananas non aculeatus pitta dictus.* It grows naturally in Surinam, New Spain, and in Africa.

Pinguin.

2. Wild Pine Apple, called *Pinguin.* This plant is titled, *Bromelia foliis ciliato-ſpinoſis mucronatis, racemo terminali.* In the *Hortus Cliffort.* it is termed, *Bromelia foliis aculeatis, racemo laxo-terminali.* Plukenet calls it, *Ananas Americana ſylveſtris altera minor*; and Dillenius, *Pinguin.* It grows naturally in Jamaica and Barbadoes.

Karatas.

3. Wild Pine Apple called *Karatas.* This plant is titled, *Bromelia acaulis, floribus aggregatis ſeſſilibus ſubradicalibus.* In the former edition of the *Species Plantarum* it is termed, *Bromelia foliis ciliato-ſpinoſis mucronatis, paniculâ diffuſâ.* In the *Hortus Upſal.* it is called, *Bromelia foliis ſpinoſis obliquè recurvis, fructibus diſpermis racemoſis.* Plumier calls it, *Karatas foliis altiſſimis anguſtiſſimis & aculeatis.* It grows naturally in America.

Lingulata.

4. Lingulated *Bromelia.* This ſpecies is titled, *Bromelia foliis ſerrato-ſpinoſis obtuſis, ſpicis alternis.* Plumier calls it, *Bromelia ramoſa & racemoſa; foliis arundinaceis ſerratis.* It is a native of America.

Nudicaulis.

5. Pyramidal *Bromelia.* This ſpecies is titled, *Bromelia foliis radicalibus dentato-ſpinoſis, caulinis integerrimis.* Plumier calls it, *Bromelia pyramidata, aculeis nigris.* It grows naturally in America.

Claſs and Order in the Linnæan Syſtem. The characters.

Bromelia is of the Claſs and Order *Hexandria Monogynia*; and the characters are,

1. CALYX is a ſmall, three-cornered, permanent perianthium, cut into three oval ſegments.
2. COROLLA is three narrow, ſpear-ſhaped, erect petals, which are larger then the calyx, each petal having at the baſe a nectarium with convergent points.
3. STAMINA are ſix awl-ſhaped filaments, which are inſerted into the receptacle, and are ſhorter than the corolla, having erect, ſagittated antheræ.
4. PISTILLUM conſiſts of a germen ſituated below the receptacle, a ſimple filiforme ſtyle the length of the ſtamina, and an obtuſe, trifid ſtigma.
5. PERICARPIUM is a large, roundiſh, umbilicated berry.
6. SEMINA. The ſeeds are numerous, incumbent, oblong, and obtuſe.

CHAP. XXXIV.

BRUNSFELSIA.

THERE is only one ſpecies of this genus yet known, called *Brunsfelſia.*

The plant deſcribed.

The ſtem is woody, rough, branching, and eight or ten feet high. The leaves are oblong, obtuſe, entire, and grow on footſtalks. The flowers are produced, three or four together, from the ends of the branches; they are large, of a white colour, and are ſucceeded by round, ſoft berries, which are of a ſaffron colour when ripe.

Culture.

This is propagated by ſowing the ſeeds in the ſpring, in pots filled with light, rich earth, and plunging them into a hotbed of tanner's bark. When the plants are about three or four inches high, they muſt be ſet ſeparately in pots, be again plunged into the hotbed, and watered and kept ſhaded until they have taken root. They muſt afterwards be removed into a good bark Stove, where they muſt conſtantly remain, affording them the tendereſt treatment in winters, but allowing them much air and frequent waterings in ſummer.

It is alſo encreaſed by cuttings. Theſe muſt be ſet in pots in the ſpring, and plunged into a bark bed; and if they are duly watered and kept ſhaded, they will readily grow, and may be managed afterwards like the ſeedling plants.

Titles.

Americana.

There being no other ſpecies belonging to this genus, it is named ſimply, *Brunsfelſia.* Plumier calls it, *Brunsfelſia flore albo, fructu croceo molli.* It grows naturally in America.

Claſs and Order in the Linnæan Syſtem. The characters.

Brunsfelſia is of the Claſs and Order *Pentandria Monogynia*; and the characters are,

1. CALYX is a ſmall, monophyllous, bell-ſhaped, permanent perianthium, divided at the top into five obtuſe ſegments.
2. COROLLA is one funnel-ſhaped petal. The tube is very long. The limb is plane, and cut into five obtuſe ſegments.
3. STAMINA are five filaments the length of the tube into which they are inſerted, having oblong antheræ.
4. PISTILLUM conſiſts of a ſmall roundiſh germen, a filiforme ſtyle the length of the tube, and a thickiſh ſtigma.
5. PERICARPIUM is a globular berry, containing one cell.
6. SEMINA. The ſeeds are numerous, roundiſh, and placed cloſe to the ſkin of the berry.

CHAP.

CHAP. XXXIX.

BUCIDA.

Species. ONE ſpecies alone at preſent compoſes this genus, called *Bucida.*

The plant deſcribed. The ſtalk is woody, and divides into many ſlender, flexuoſe branches, which require ſupport. The leaves are roundiſh, but broadeſt at the top, and grow in cluſters. The flowers come out in numerous ſpikes at the ends of the branches; they are ſucceeded by dry, oval berries, each containing one ſeed.

Culture. This is propagated by ſeeds, which may be eaſily procured from Jamaica, where the plant grows naturally. They muſt be ſown in pots filled with good garden mould in the ſpring, and plunged into a hotbed of tanner's bark. When the plants are three or four inches high, they muſt be planted ſeparately in pots, be again plunged into the hotbed, where the uſual care of watering and ſhading muſt be allowed them at firſt; and afterwards muſt have plenty of air allowed them by degrees, as the ſeaſon will permit. In the autumn they muſt be taken into a good bark Stove, where they muſt conſtantly remain, with the care and management of tender plants.

Titles. Buceras. There being no other ſpecies belonging to this genus, it is named ſimply, *Bucida.* Brown calls it, *Buceras ramulis flexuoſis tenuioribus, foliis obovatis confertis, ſpicis plurimis terminalibus*; and Sloane, *Mangle julifera, foliis ſubrotundis verſus ſummitatem latiſſimis confertim naſcentibus, cortice ad coria denſanda utili.* It grows naturally in Jamaica.

Claſs and Order in the Linnæan Syſtem. *Bucida* is of the Claſs and Order *Decandria Monogynia*; and the characters are,

The characters. 1. CALYX is a monophyllous, bell-ſhaped, permanent perianthium, placed upon the germen, and obſoletely indented in five parts on the brim.

2. COROLLA. There is none.

3. STAMINA are ten capillary filaments inſerted into the baſe of the calyx, and longer than the calyx, having heartſhaped, erect antheræ.

4. PISTILLUM conſiſts of an oval germen ſituated below the calyx, a filiforme ſtyle the length of the ſtamina, and an obtuſe ſtigma.

5. PERICARPIUM is a dry, oval berry, crowned by the calyx, and containing one cell.

6. SEMEN. The ſeed is one, and oval.

CHAP. XL.

BUDDLEJA.

Species. THERE are two diſtinct ſpecies of this genus, called,

1. American *Buddleja.*
2. Occidental *Buddleja.*

American 1. American *Buddleja.* The ſtem is woody, ſends out branches oppoſite to each other near the top, grows to be ten or twelve feet high, and is covered with a whitiſh bark. The leaves are oval, downy on their under-ſide, and grow oppoſite to each other on the branches. The flowers are produced in ſpikes from the ends of the branches, are of a yellow colour, and ſucceeded by oblong capſules containing the ſeeds, which do not ripen in England.

and Occidental Buddleja deſcribed. 2. Occidental *Buddleja.* The ſtem is woody, fifteen or ſixteen feet high, and ſends out many ſlender branches, that are covered with a ruſſet, hairy bark. The leaves are long, ſpear-ſhaped, pointed, entire, a little downy on their under-ſide, and grow oppoſite to each other at the joints. The flowers are produced, in looſe, whorled ſpikes, from the ends of the branches, are of a white colour, and appear in the ſummer; but the ſeeds do not ripen in England.

Culture. Theſe plants are propagated from the ſeeds, which muſt be procured from the places where they naturally grow, preſerving them in their capſules until their arrival. They muſt be ſown in pots filled with the lighteſt and richeſt earth, and be ſcarcely covered with the mould; for being extremely ſmall, and liable to be buried, all hopes of a riſing crop will be deſtroyed. The ſeeds being ſown, the pots muſt be plunged up to the rims in a bark-bed, and the plants have a ſprinkling of water every other morning; but let it be performed very lightly, leſt you diſlodge the ſeeds from their reſpective ſtations. In about ſix weeks the plants will appear; and when they are fit to remove, each muſt be ſet in a ſeparate pot, plunging them up to the rims in the bed, as before, and watering and ſhading them until they have taken root. When this is effected, they ſhould have more air and frequent waterings, eſpecially in hot weather, and early in the autumn be removed into a very warm bark ſtove; where they muſt conſtantly remain, giving them little water in winter, but frequent waterings and much free air in ſummer. They muſt from time to time be ſhifted into larger pots, as often as they ſhall require it; and about the fourth year from ſeeds they will exhibit their bloom, and afterwards continue to flower annually; but the ſeeds do not ripen in England.

Titles. Americana 1. The firſt ſpecies is titled, *Buddleja foliis ovatis.* In the *Hortus Cliffort.* it is named ſimply, *Buddleja.* Brown calls it, *Buddleja aſſurgens incana, foliis majoribus, ſpicis aſſurgentibus*; and Sloane, *Verbaſci folio minore arbor, floribus ſpicatis luteis, ſeminibus ſingulis oblongis in ſingulis vaſculis ſiccis.* It grows naturally by the ſides of running waters in Jamaica and many of the American Iſlands.

Occidentalis. 2. The ſecond ſpecies is titled, *Buddleja foliis lanceolatis.* In Miller's Dictionary it is termed, *Buddleja foliis lanceolatis acuminatis integerrimis oppoſitis, ſpicis interruptis.* Plukenet calls it, *Ophioxylon Americanum, foliis oblongis mucronatis* *leviter ſerratis bardanæ inſtar ſubtus lanuginoſis.* It grows naturally in America.

Claſs and Order in the Linnæan Syſtem. The characters.

Buddleja is of the Claſs and Order *Tetrandria Monogynia*; and the characters are,

1. Calyx is a ſmall, permanent perianthium, divided into four acute, erect ſegments.

2. Corolla is one bell-ſhaped, erect petal, three times as large as the calyx, and cut into four oval, ſtraight, acute ſegments.

3. Stamina are four very ſhort filaments placed at the diviſions of the corolla, having very ſhort, ſimple antheræ.

4. Pistillum conſiſts of an oval germen, a ſimple ſtyle half the length of the corolla, and an obtuſe ſtigma.

5. Pericarpium is an oval, oblong, biſulcated capſule, containing two cells.

6. Semina. The ſeeds are numerous, and very ſmall.

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CHAP. XLI.

BURSERA.

THIS genus comprehends a ſpecies which is well known in our ſtoves by the name of Jamaica Birch-tree.

The plant deſcribed.

The trunk is large, and covered with a looſe brown bark, which falls off in pieces, like that of our Common Birch-tree. It grows upwards of thirty feet high, and divides into many branches near the top. The leaves are pinnated, being compoſed of five or ſix pair of ſmooth, heart-ſhaped, oval folioles, which are terminated with an odd one. The flowers come out from the ends of the branches in long bunches; they are of a pale yellow colour, and are ſucceeded by oval, triangular, yellowiſh fruit, about the ſize of a pea.

Culture.

This ſpecies is propagated by ſowing the ſeeds in pots filled with light earth, and plunging them in a good hotbed of tanner's-bark. When the plants are four or five inches high, each ſhould be ſet in a ſeparate pot, and plunged up to the rims in a freſh hotbed. In this ſituation they muſt be ſhaded and watered until they have taken root. Afterwards, during the ſummer, they ſhould have plenty of air in warm weather, and frequent waterings; and in the autumn they ſhould be removed into the warmeſt ſtove, plunging the pots up to their rims in the bark-bed. Here they ſhould conſtantly remain, giving them but little water in winter, and much air in hot weather in ſummer; obſerving to ſhift them from time to time, as they encreaſe in ſize, into larger pots.

Titles. Gummi-fera.

This ſpecies, of which there ſeems to be no other of the genus, is named *Burſera*. In the former edition of the *Species Plantarum* it is titled, *Piſtacia foliis pinnatis deciduis, foliolis ovatis.* Brown calls it, *Terebinthus foliis cordato-ovatis pinnatis, cortice lævi rufeſcente, floribus maſculis ſpicatis*; and Sloane, *Terebinthus major, betulæ cortice, fructu triangulari.* It grows naturally in Jamaica, and other hot parts of America.

Claſs and Order in the Linnæan Syſtem. The characters.

Burſera is of the Claſs and Order *Hexandria Monogynia*; and the characters are,

1. Calyx is a ſmall perianthium, compoſed of three roundiſh, concave, ſpreading, deciduous leaves.

2. Corolla is three oval, plane, ſharp-pointed, ſpreading petals.

3. Stamina are ſix awl-ſhaped, erect filaments the length of the calyx, having oblong, erect antheræ.

4. Pistillum conſiſts of an oval germen the length of the ſtamina, and a very ſhort ſtyle, with a capitated ſtigma.

5. Pericarpium is an oval, triangular, ſucculent capſule of one cell.

6. Semen. The ſeed is ſingle, baccated, compreſſed, and nearly caudated.

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CHAP. XLII.

CACTUS, MELON THISTLE.

Species.

UNDER this genus are arranged,

I. Melon Thiſtles.
II. Torch Thiſtles.
III. Cochineal Fig.
IV. Indian Fig.
V. Great Indian Fig.
VI. Indian Fig of Curaſſao.
VII. Sword-leaved Indian Fig.
VIII. *Pereſkia*, American Gooſeberry, or Blad Apple.

I. Melon Thiſtles.

Of theſe there are two diſtinct ſpecies, called,

1. Hedge-Hog Melon Thiſtle.
2. Mamillary Melon Thiſtle.

Hedge Hog Melon Thiſtle deſcribed.

1. Hedge-Hog Melon Thiſtle is a plant in the ſhape of a Melon; Its figure is nearly round, but inclining to oblong, and its height about a foot or more; its inſide is fleſhy, ſoft, and full of juice; its ſurface poſſeſſes fourteen high, longitudinal ridges, each of which is beſet with about nine tubercles, from every one of which about ten very ſharp thorns, about an inch in length, ariſe. The top of the plant is poſſeſſed of a fine downy matter, forming a tuft of about four inches diameter, among which ſtill longer ſpines, and the flowers, are produced. There are many varieties of this ſpecies, differing in ſize of the plant, length and colour of the thorns, ſize of the tuft or cap, and the diſpoſition of the flowers. The ſtanding characteriſtic of this ſpecies is, that

its figure is nearly round, and its ſurface raiſed into about fourteen longitudinal ridges, which in ſome varieties are ſpirally twiſted, in others variouſly contorted, &c.

Mamillary Melon Thiſtle deſcribed.

2. Mamillary Melon Thiſtle. This plant is alſo ſhaped like a Melon, tho' its figure is uſually more oblong, and flatted at top. Its height is about eight or ten inches; its inſide tender, fleſhy, and of an acrid taſte; and the ſurface is covered with oval, ſmooth tubercles, which are armed with gloſſy, brown-coloured thorns, diſpoſed in a radiated manner at the crown of each tubercle. The flowers come out among the tubercles, and are of a white colour; they appear in July and Auguſt, and are ſucceeded by oblong crimſon fruit, full of a purple juice of an agreeable acid flavour, which will be ripe in the winter.

Theſe wonderful plants grow from the ſides or crevices of the rocks in the warmeſt parts of America, and flouriſh beſt where there ſeems to be the leaſt earth for their ſupport.

Culture.

They are raiſed in England by ſowing the ſeeds in pots filled with light, ſandy earth. The pots muſt be plunged up to the rims in the bark-bed, and the plants will ſoon come up. When they are fit to remove, each ſhould be ſet in a ſmall ſeparate pot; they ſhould then be plunged up to the rims in the bark-bed, as before, and in the hot weather muſt have much air. In the autumn they muſt be taken into the Stove, be removed from time to time into larger pots, as they encreaſe in ſize, and be managed like other tender plants. Plants will alſo riſe about the old ones, which may be taken up, potted, and managed as the others.

The Mamillary Melon Thiſtle is the moſt hardy ſpecies, but all of them do beſt in the warmeſt ſtove. No particular compoſt is neceſſary for theſe plants, if a ſandy earth can be procured from a barren heath, or the foot of ſome precipice or rock: For want of this three barrows full of drift-ſand to one of common mould, will form a proper ſoil, in which they will grow very well. The larger ſorts are frequently brought from America; and when they ſucceed, a goodly ſhow of them is ſoon obtained. A ſufficient quantity of tubs having holes bored at the bottom muſt be in readineſs for their reception; ſplinters of the rocks muſt be firſt placed, the tubs filled with the natural mould of the place, and the plants taken up with the greateſt care, and planted in thoſe tubs as cloſe together as may be. During the voyage they muſt have no water, the ſpray muſt be guarded againſt, and they ſhould have open air at favourable times.. On their arrival they muſt be planted in pots filled with as ſimilar an earth as can be procured, and then plunged up to the rims in a good bark-bed; where they may remain until the autumn, and then be removed into the ſtove. Theſe plants are very tender, ſhould have no water in winter, nor be expoſed to the full air in the ſummer. Their ſtation in winter is beſt on the flues, and not in the bark-bed; and tho' they will often then loſe their colour and look unhealthy, yet by plunging them up to the rims in the ſummer ſeaſon, they will regain their verdure, will grow, encreaſe in ſize, and aſſume that healthy and ſingular appearance which Nature deſigned them to poſſeſs.

Torch Thiſtles.

II. Torch Thiſtles.

Torch Thiſtles are divided into two claſſes:
1. Upright Torch Thiſtle.
2. Creeping Torch Thiſtle.

1. Upright Torch Thiſtle. The diſtinct ſpecies of this claſs are,

Species.

1. The Common Great Torch Thiſtle of Surinam.
2. The Smaller Quadrangular Torch Thiſtle.
3. Septangular Torch Thiſtle.
4. Pentangular Torch Thiſtle.
5. Octangular Torch Thiſtle.
6. Downy Torch Thiſtle of Curaſſao.
7. Peruvian Torch Thiſtle.
8. Royen's Torch Thiſtle.

Common Great,

1. Common Great Torch Thiſtle of Surinam. This plant conſiſts of a ſingle, hexangular ſtem, body, or column, five or ſix inches in diameter, and thirty or forty feet in height. The angles, or ridges, raiſed on the ſurface, are at a conſiderable diſtance from each other, and uſually ſix in number; tho' they are frequently more at the upper part of the plant, and ſometimes fewer near the baſe. Theſe ridges are armed with ſharp ſpines, which come out in radiated cluſters along the ribs, at certain diſtances from each other. The flowers come out from the ſides of the ſtems at the ribs, on thick, ſcaly, round, channelled, hairy footſtalks. The petals are white; and the cups, which are very prickly, are green, ſtriped with purple; they are as large as a Roſe, and open chiefly in evenings; their ſeaſon of blowing is generally in July or Auguſt, but they are very rarely ſucceeded by fruit in England.

Smaller Quadrangular,

2. Smaller Quadrangular Torch Thiſtle. The ſtem of this plant is upright, ſends forth many ſide-branches, and grows only to five or ſix feet high. The ribs or angles are only four in number, are compreſſed, and ſtand at a conſiderable diſtance from each other.

Septangular,

3. Septangular Torch Thiſtle. The figure of this ſpecies is oblong, its poſition upright, and the angles or ribs are uſually ſeven in number. It is armed with ſharp ſpines along the ribs, and flowers about the time of the firſt ſort.

Pentangular,

4. Pentangular Torch Thiſtle. This plant riſes with an upright column to fifteen or twenty feet high. It is articulated, the joints being placed at a conſiderable diſtance from each other; and the number of angles is about five, tho' in ſome varieties more are found; in others hardly four near the baſe of the plant.

Octangular,

5. Octangular Torch Thiſtle. The ſtem is rather ſlender, but upright; the angles obtuſe, and eight or nine in number; and the ſpines are in cluſters, which are placed at a conſiderable diſtance from each other. The flowers come out from the angles; they are of a greeniſh colour, appear in June, and are ſucceeded by fruit, which ſometimes ripens in England. The fruit is large, of a yellow colour on the outſide, but white within; it is full of pulp, and contains a great number of black ſeeds.

Downy,

6. Downy Torch Thiſtle of Curaſſao. The ſtem of this plant is upright, thick, and fifteen or twenty feet high. The angles are about nine in number, obtuſe, and the channels not deep; they are poſſeſſed of ſhort ſpines, and a long yellow-colour'd downy matter. They flower in June and July, and in their native countries are ſucceeded by large, red-coloured, ſmooth fruit, of an agreeable acid flavour.

and Peruvian Torch Thiſtle deſcribed.

7. Peruvian Torch Thiſtle. The ſtem is erect, and twenty or thirty feet high; the angles are about eight in number, obtuſe, and the channels not deep. They are armed with ſpines, produce their flowers in July, and afford a middling-ſized, red-coloured, ſmooth fruit, of an agreeable flavour.

Royen's Torch Thiſtle deſcribed.

8. Royen's Torch Thiſtle. The ſtalk is upright, and articulated. The angles or ridges are about ten in number, and the articuli or joints are nearly of an oval figure: they are poſſeſſed of ſpines, and of a woolly matter about the ſame length. The flowers are produced in July, and are ſucceeded by a middle-ſized fruit, which to many is very agreeable.

2. Creeping Torch Thiſtles.

The diſtinct ſpecies of theſe Creeping ſorts are,

Species;

1. Grand-flowered Climbing Torch Thiſtle.
2. Purple-flowered Climbing Torch Thiſtle.
3. Triangular Climbing Torch Thiſtle.

Grand-flowered,

1. Grand-flowered Climbing Torch Thiſtle. The ſtalks are climbing, jointed, poſſeſſed of five or more angles, and ſtrike root at the joints. The flowers are the grandeſt and moſt beautiful of all the kinds: The petals are of a pure white colour; the inſide of the calyx is of a bright yellow, and the outſide of a dark brown colour. They are eight or ten inches in diameter, and when in blow have a moſt ſplendid and enchanting appearance. They are alſo poſſeſſed of a moſt agreeable odour, with which they perfume the whole houſe: They open in evenings, but are ſo very fugacious, that they fade, hang drooping, and loſe their luſtre before morning; but others will ſucceed them the next night. They appear in July and Auguſt, but are not followed by fruit in England.

and Purple-flowered Climbing Torch Thiſtle deſcribed.

2. Purple-flowered Climbing Torch Thiſtle. The ſtalks are ſlender, trailing, poſſeſſed of numerous prickles, and their angles are ten in number. The flowers are of an elegant purple colour, and continue longer before they fade than moſt of the other ſorts; they appear in July and Auguſt, and are ſucceeded by fruit, which rarely ripens in England.

Variety.

There is a variety of this ſpecies with pink-coloured petals.

Triangular Climbing Torch Thiſtle deſcribed.

3. Triangular Climbing Torch Thiſtle. The ſtalks of this ſpecies are ſlender, jointed, triangular, very prickly, ſtrike root at the joints, and extend themſelves to a conſiderable diſtance. The flowers are large, and of exquiſite beauty; and the fruit which ſucceeds them is nearly round, large, and of a delicate flavour.

Theſe are the diſtinct ſpecies of the Upright and Trailing Torch Thiſtles, and of which there are many varieties.

Culture.

They are all propagated by planting the cuttings. Theſe ſhould be taken off in June or July, and laid in a dry, airy place for about a fortnight, that the parts may heal before they are planted, to prevent their rotting. When they are planted, they muſt be plunged into a bark-bed, to cauſe them to ſtrike root more readily, and water muſt not be given them oftener than once in four or five days. When they are in a growing ſtate, and the weather is hot, plenty of air muſt be afforded them; and they may remain in this bed until the autumn, and be then removed into the Stove.

The Common Great Torch Thiſtle of Surinam is moderately hardy, and will do very well in a good Green-houſe, but thrives beſt in a moderate Stove. All the other ſorts require a good Stove, but delight in freſh air: They ſhould therefore be ſo ſituated in the houſe, that a ſufficient quantity of freſh air may be granted them without taking them out; for although they will live if ſet abroad in hot weather in ſummer, yet they are liable to imbibe too great a quantity of moiſture, which occaſions them to rot; neither will they be ſo prolifick of flowers as if kept in the Stove. Let them therefore conſtantly remain, giving them much air, and now and then a ſlight watering in hot weather in ſummer; but let them have no water in winters.

The Trailing ſorts may be trained up to the walls, the ſides of the windows, cielings, or different parts of the houſe, where they will have a very ſingular and ſtriking effect, eſpecially the largeſt-flowering ſorts, which are enchantingly beautiful when in blow.

The cuttings of all the ſorts will keep many months, if neceſſary, after they are taken off, before they are planted: They may therefore be procured with the utmoſt facility, in any quantity, from the Weſt Indies; when they need only be taken off, laid three or four days for the parts to heal, and then be packed up with dry ſtraw in boxes, to keep them ſeparate from each other: And theſe, if planted as ſoon as they arrive, and managed as the preceding cuttings, will grow, and ſoon become good plants. But this is in a manner needleſs, unleſs ſome new variety is to be introduced from theſe countries; for they multiply ſo faſt in England, that when a cutting is taken off, freſh ſhoots will ariſe from the angles, which, when they are about eight or ten inches long, will be proper cuttings to form freſh plants.

Thus may theſe kinds be increaſed without end; and as they are now pretty common in our Stoves, the procuring cuttings from the Weſt-Indies is in a manner needleſs, unleſs ſome freſh ſpecies or ſingular varieties are there diſcovered, which may increaſe the number of our ſorts and the value of our collection.

Cochineal

III. Cochineal Fig. The articuli are of an oval figure, oblong, ſmooth, compreſſed, and poſſeſſed of few or no ſpines, and thoſe very ſoft and inoffenſive. The plant divides into a number of theſe, is firm, of a good green colour, nearly erect, and grows to be eight or ten feet high. The flowers come out from the ſurface of the articulations, ſitting on the embryo fruit; they are ſmall, of a purple colour, appear in September and October, and in Jamaica are ſucceeded by large, ſucculent fruit, full of a blood-red juice, on which the Cochineal inſects feed. The fruit rarely comes to perfection in England.

Indian,

IV. Indian Fig. This is compoſed of many joints or branches, in the manner of the Common Indian Fig of our Green-houſes; but the articulations or branches are more erect; their figure is oblong, ſometimes inclining to an oval; they are compreſſed, and armed with radiated cluſters of briſtly ſpines. The flowers are produced from the edges of the branches, ſitting on the embryo fruit; they are of a yellow colour, appear in July and Auguſt, and are ſucceeded by a large, purple-coloured, prickly fruit, which in Jamaica affords food for a wild ſort of Cochineal inſects, called Sylveſters.

and Great Indian Fig deſcribed.

V. Great Indian Fig, or Prickly Pear. This plant is compoſed of a multitude of large articulations, and grows to be twelve or fifteen feet high. The articuli, joints or branches, are of an oval, oblong figure, and armed with numerous cluſters of long, awl-ſhaped, yellowiſh-coloured ſpines. The flowers are large, and of a bright yellow colour; and the fruit is a large, oblong, umbilicated berry, full of juice.

Indian Fig of Curaſſao deſcribed.

VI. Indian Fig of Curaſſao. This is a low Fig, formed of many cylindrical, ſwelling, and compreſſed branches or articulations, which ſpread every way, often lie on the ground, and, falling off, ſtrike root and become freſh plants. The branches or joints are cloſely beſet with whitiſh ſpines, and being cylindrical, bellied, and compreſſed, aſſume the appearance of a pincuſhion ſet with pins: Hence the name Pin-pillow is uſed for this plant in America.

VII. Sword-leaved Indian Fig. This plant is formed of ſeveral long, ſlender articulations, which are ſword-ſhaped, compreſſed, have no ſpines, are of a light green colour, and indented on their edges. The flowers are produced from the indentures of the leaves, ſitting on the embryo fruit; they are of a pale-yellow colour, and are ſucceeded by a moderately large, oblong, ſucculent fruit, which rarely ever ripens in England.

VIII. *Pereſkia*, American Gooſeberry, or Blad Apple. The ſtem of this plant is woody, taper, prickly, and ſends forth ſeveral ſlender branches, which ſpread on every ſide, and are armed with cluſters of long, whitiſh ſpines. The leaves are oblong, thick, ſucculent, and green. The flowers are white. The fruit is the ſize of a very large Gooſeberry, ſucculent, and poſſeſſed of tufts of ſmall leaves, of a yellowiſh colour on the outſide, but white within.

Theſe ſorts are eaſily raiſed by planting the joints or cuttings in any of the ſummer-months. When they are taken off, they are uſually laid by for ten days or a fortnight, that the wounded parts may heal, to prevent their rotting. They ſhould be then planted in pots filled with light, rubbiſhy, but fertile earth, and be plunged up to the rims in a bark-bed. Here they muſt now and then have water in ſmall quantities; and as they ſtrike root, the glaſſes muſt be raiſed, and plenty of air afforded them, to prevent their drawing up weak. After this, they muſt be hardened to the full air, and in the autumn removed into a pretty good Stove, placing them near the windows, where they may enjoy plenty of air on all favourable occaſions. In ſummer they ſhould not be taken out of the Stove, for they thrive beſt there, provided the windows be kept open, and they are frequently watered. In winters alſo they muſt be frequently watered, otherwiſe their branches will ſhrink and loſe their colour, if they are placed in the warmeſt Stove: If in the moſt temperate Stove, a ſmaller proportion of water muſt be allowed them.

As they increaſe in ſize, thoſe which require it ſhould have their branches trained up to a ſmall trellis, or ſtake, thruſt down for their ſupport. They muſt from time to time be ſhifted into larger pots, as often as they ſhall require it; and the plants will thrive well, aſſume a healthy appearance, flower ſtrong, and frequently produce ripe fruit in our gardens.

Titles of the preceding ſpecies.

I. Melon Thiſtles.

Titles.

Melocactus.

1. Hedge-Hog Melon Thiſtle is titled, *Cactus ſubrotundus quatuordecim-angularis.* Brown calls it, *Cactus humilis ſubrotundus ſulcatus & coronatus*; Caſpar Bauhine, *Melocactus Indiæ Occidentalis*; and Cluſius, *Echino Melocactus.* It grows naturally in Jamaica, and moſt of the warmer parts of America.

Mammillaris.

2. Mamillary Melon Thiſtle is titled, *Cactus ſubrotundus tectus tuberculis ovatis barbatis.* Herman calls it, *Echino Melocactus minor lacteſcens, tuberculis ſ. mammillis majoribus*; Plukenet, *Ficoides, ſ. Melocactus mammillaris glabra ſulcis carens, fructum ſuum undique fundens*; and Commeline, *Ficoides, ſ. Ficus Americana ſphærica tuberculata lacteſcens, flore albo.* It riſes from the ſides of craggy rocks and mountains in the warmeſt parts of America.

II. Torch Thiſtles.

1. Upright Torch Thiſtles.

Hexagonus.

1. Common Great Torch Thiſtle of Surinam is titled, *Cactus erectus ſexangularis longus.* Herman calls it, *Cereus erectus altiſſimus Surinamenſis*; and Plumier, *Melocactus monoclonos, flore albo, fructu atro purpureo.* It is a native of Surinam.

Tetragonus.

2. Smaller Quadrangular Torch Thiſtle is titled, *Cactus quadrangularis longus erectus: angulis compreſſis.* Herman calls it, *Cereus erectus minor, fructu ſpinoſo, coſtarum numero varians.* It grows naturally in the warmer parts of America.

Heptagonus.

3. Septangular Torch Thiſtle is titled, *Cactus erectus oblongus ſeptangularis.* It grows naturally in America.

Pentagonus

4. Pentangular Torch Thiſtle is titled, *Cactus ſubquinquangularis erectus longus articulatus.* It grows naturally in America.

Repandus.

5. Octangular Torch Thiſtle is titled, *Cactus erectus longus octangularis: angulis compreſſis undatis: ſpinis lanâ longioribus.* Brown calls it, *Cactus erectus cylindraceus ſulcatus tenuior ſummitate attenuatus, aculeis confertis*; and Sloane, *Cereus altiſſimus gracilior, fructu extus luteo, intus niveo, ſeminibus nigris pleno.* It grows in the warmeſt parts of America.

Lanuginosus.

6. Downy Thiſtle of Curaſſao is titled, *Cactus erectus longus ſubnovemangularis: angulis obſoletis, ſpinis lanâ brevioribus.* Herman calls it, *Cereus Curaſſavicus erectus maximus, fructu rubro non ſpinoſo, lanugine flaveſcente.* It is a native of Curaſſao.

Peruvianus.

7. Peruvian Torch Thiſtle is titled, *Cactus erectus longus ſuboctangularis: angulis obtuſis.* Brown calls it, *Cactus cylindraceus erectus ſulcatus major ſummitate obtuſus, aculeis confertis*; Herman, *Cereus erectus, fructu rubro non ſpinoſo*; Caſpar Bauhine, *Cereus Peruvianus ſpinoſus, fructu rubro nucis magnitudine*; and Lobel, *Euphorbii arbor cerei effigie.* It grows naturally in Jamaica and Peru.

Royeni.

8. Royen's Torch Thiſtle is titled, *Cactus erectus articulatus ſubdecangularis: articulis ſubovatis, ſpinis lanam æquantibus.* It grows naturally in America.

2. Creeping Torch Thiſtles.

Grandiflorus.

1. Grand-flowered Climbing Torch Thiſtle is titled, *Cactus repens ſubquinquangularis.* In the *Hortus Cliffort.* it is termed, *Cactus ſcandens angulis quinque pluribuſque obtuſis.* Volkamer calls it, *Cereus Americanus major articulatus, flore maximo nocte ſe aperiente, ſ. ſuaviſſimum odorem ſpirante.* It grows naturally in Jamaica and La Vera Cruz.

Flagelliformis.

2. Purple-flowered Climbing Torch Thiſtle is titled, *Cactus repens decemangularis.* In the *Hortus Upſal.* it is termed, *Cactus ſcandens, angulis decem obſoletis.* Trew calls it, *Cereus minor ſcandens polygonus ſpinoſiſſimus, flore purpureo*; and Plukenet, *Ficoides Americanum, ſ. cereus minima ſerpens Americana.* It inhabits the warmer parts of America.

Triangularis.

3. Triangular Climbing Torch Thiſtle is titled, *Cactus repens triangularis.* In the *Hortus Cliffort.* it is termed, *Cactus triangularis ſcandens articulatus.* Brown calls it, *Cactus debilis brachiatus æqualis triquetrus ſcandens, ſ. repens, ſpinis breviſſimis confertis.* It grows naturally in Jamaica and the Braſils.

Cochinillifer.

III. Cochineal Fig is titled, *Cactus articulato-prolifer, articulis ovato-oblongis ſubinermibus.*

Dillenius calls it, *Tuna mitior, flore ſanguineo, cochinillifera*; Plukenet, *Ficus Indica major lævis ſ. ſpinoſa vermiculos proferens*; and Sloane, *Opuntia maxima, folio oblongo rotundo majore ſpinulis nonnullis & innocentibus obſito.* It grows naturally in Jamaica and the warmer parts of America.

Ficus Indica. IV. Indian Fig is titled, *Cactus articulato-prolifer, articulis ovato-oblongis, ſpinis ſetaceis.* Van Royen calls it, *Cactus compreſſus articulato-ramoſus, articulis ovato-oblongis, ſpinis ſetaceis.* It inhabits the warmer parts of America.

Tuna. V. Great Indian Fig, or Prickly Pear, is titled, *Cactus articulato-prolifer, articulis ovato-oblongis, ſpinis ſubulatis.* Dillenius calls it, *Tuna major, ſpinis validis flavicantibus, flore gilvo*; and Sloane, *Opuntia major, folio oblongo rotundo: ſpinis longis validiſſimis, flore luteo.* It grows naturally in moſt of the Weſt India Iſlands.

Curassavicus. VI. Indian Fig of Curaſſao is titled, *Cactus articulato-prolifer, articulis cylindrico-ventricoſis compreſſis.* In the *Hortus Cliffort.* it is termed, *Cactus tereti-compreſſus articulatus ramoſus.* Commeline calls it, *Ficus Indica, ſ. Opuntia Curaſſavica minima*; and Plukenet, *Ficus Indica, ſ. Opuntia minor cauleſcens arbuſculæ in modum, ramis cinericiis, ſpinoſiſſima.* It grows naturally in Curaſſao.

Phyllanthus. VII. Sword-leaved Indian Fig is titled, *Cactus prolifer enſiformi-compreſſus ſerrato-repandus.* In the *Hortus Cliffort.* it is termed, *Cactus foliis enſiformibus obtuſè ſerratis.* Dillenius calls it, *Cereus ſcolopendri folio brachiato*; Sloane, *Opuntia non ſpinoſa minima cauleſcens, foliis piloſis ſtrictiſſimis e crenis foliorum florem proferens*; Plukenet, *Phyllanthos Americana, ſinuoſis longis foliis*; and Ray, *Ficus, ſ. Opuntia non ſpinoſa, ſcolopendri folio ſinuato.* It grows naturally in the Braſil Iſlands.

Pereskia. VIII. *Pereſkia*, American Gooſeberry, or Blad Apple, is titled, *Cactus caule tereti arboreo: aculeis geminis recurvis, foliis lanceolato-ovatis.* Brown calls it, *Cactus ſarmentoſus foliatus ſpinoſus, ſpinis geminis recurvis, foliis mollibus ovatis*; Plumier, *Periſkia aculeata, flore albo, fructu flaveſcente*; Commeline, *Malus Americana ſpinoſa, portulacæ folio, fructu folioſo, ſemine reniformi ſplendente*; and Sloane, *Groſſulariæ fructu majore arbor ſpinoſa, fructu folioſo viridi-albicante.* It grows naturally in Jamaica and ſome of the warmeſt parts of America.

CHAP. XLIII.

CÆSALPINA, BRASILETTO.

THERE are four diſtinct ſpecies of this genus:

Species.

1. Saffron-coloured Baſtard Saunders, or Braſiletto.
2. Oval-leaved *Cæſalpina*.
3. Bladder *Cæſalpina*.
4. Oblong-leaved *Cæſalpina*, or Sappan.

Saffron-coloured Baſtard Saunders, or Braſiletto deſcribed. 1. Saffron-coloured Baſtard Saunders, or Braſiletto. The trunk is robuſt, unarmed with thorns, branching near the top, and twenty or thirty feet high. The leaves are compoſed of many branching folioles, the lobes being ſmall, oval, indented at the top, and placed oppoſite to each other. The flowers are produced in looſe pyramidical ſpikes from the ſides of the branches; they are of a white colour, having yellow ſtamina, and are ſucceeded by long, compreſſed pods, containing the ſeeds. The wood of this tree is the Braſiletto uſed in dying.

Oval-leaved, 2. Oval-leaved *Cæſalpina.* The trunk is robuſt, upwards of thirty feet high, armed with ſhort, ſtrong, upright thorns, and divides irregularly into many weak, prickly branches near the top. The leaves are doubly pinnated, the folioles being oval and entire. The flowers are produced in long ſpikes from the ſides of the branches; they are white ſtriped with red, having pentandrous ſtamina.

Bladder, 3. Bladder *Cæſalpina.* This grows to twenty feet high, and is armed with thorns. The leaves branch out into many diviſions, the folioles being heart-ſhaped, roundiſh, and very ſtrongly ſcented. The flowers are produced from the ends and ſides of the branches; they are of a black colour, and are ſucceeded by ſhort, ſulcated pods.

and Oblong-leaved Cæſalpina deſcribed. 4. Oblong-leaved *Cæſalpina.* The ſtem is robuſt, branching, and armed with thorns. The leaves are compoſed of many oblong, unequal, indented folioles. The flowers are of a white or yellow colour; and the pods oblong and pointed.

Culture; Theſe plants are propagated by ſowing the ſeeds in the ſpring in pots filled with light, rich earth, and plunging them up to the rims in a hotbed of tanner's bark. When the plants come up, they muſt be frequently tho' very lightly watered, and muſt have as much air as the weather will permit, to prevent their drawing weak. When they are fit to remove, each muſt be ſet in a ſeparate pot, be again plunged into the hotbed, and watered and kept ſhaded until they have taken root. After that they muſt have more air, and frequent waterings in hot weather; and in the autumn muſt be taken into a good bark ſtove, where they muſt conſtantly remain, ſhifting them from time to time into larger pots, as often as they ſhall require it, keeping them very warm in winter, and affording them much free air in hot weather in ſummer.

Titles. Brasiliensis. 1. The firſt ſpecies is titled, *Cæſalpina caule foliiſque inermibus.* Brown calls it, *Cæſalpina arborea inermis, foliis minoribus paribus bipinnatis, ligno kermeſino: Braſiletto*; and Sloane, *Pſeudo-ſantalum croceum.* It grows naturally in Carolina, Jamaica, and the Braſils.

Crista. 2. The ſecond ſpecies is titled, *Cæſalpina caule aculeato, foliolis ovatis, floribus pentandris.* Plumier calls it, *Cæſalpina polyphylla aculeis horrida.* It grows naturally in Jamaica.

Vesicaria. 3. The third ſpecies is titled, *Cæſalpina caule aculeato, foliolis obcordatis ſubrotundis.* Brown calls it, *Cæſalpina ſpinoſa, foliis minoribus obcordatis bipinnatis*; and Sloane, *Senna ſpuria arborea ſpinoſa, foliis alatis ramoſis ſ. decompoſitis, flore luteo, ſiliquis brevibus ſulcatis nigris, ſabinæ odore.* It grows naturally in Jamaica.

Sappan. 4. The fourth ſpecies is titled, *Cæſalpina caule aculeato, foliolis oblongis inæquilateribus emarginatis.* Caſpar Bauhine calls it, *Ligno Braſiliano ſimile*; and Rumphius, *Lignum Sappan.* It grows naturally in both the Indies.

Claſs and Order in the Linnæan Syſtem. The characters.

Cæſalpina is of the Claſs and Order *Decandria Monogynia*; and the characters are,

1. Calyx is an urceolated perianthium cut into five parts, the lower lobe being the largeſt.

2. Corolla is five unequal petals.

3. Stamina are ten filiforme, incurved, decumbent filaments, with ſimple antheræ.

4. Pistillum conſiſts of a ſlender, oblong germen, a ſimple ſtyle the length of the ſtamina, and a capitated ſtigma.

5. Pericarpium is an oblong, rhomboidal, acuminated pod, containing one cell.

6. Semina. The ſeeds are many, and rhomboidal.

CHAP. XLIV.

CAMERARIA.

Species.

THIS genus conſiſts of two ſpecies, called,

1. Broad-leaved *Cameraria.*
2. Narrow-leaved *Cameraria.*

Broad-leaved,

1. Broad-leaved *Cameraria.* The ſtalk is woody, divides into ſeveral branches, grows to be ten or twelve feet high, and is replete with an acrid, milky juice. The leaves are oval, acute at both ends, ſmooth, tranſverſely ſtriated, and grow oppoſite to each other. The flowers are produced in looſe cluſters from the ends of the branches; they are of a yellowiſh-white colour, and appear in Auguſt, but the ſeeds do not ripen in England.

and Narrow-leaved Cameraria deſcribed.

2. Narrow-leaved *Cameraria.* The ſtalk is woody, milky, divides irregularly into branches, and grows to about eight feet high. The leaves are narrow, thin, and grow oppoſite to each other at the joints. The flowers are produced from the ends of the branches; they are like thoſe of the former, but ſmaller; they appear in Auguſt, but the ſeeds do not ripen in England.

Culture.

Theſe are propagated by planting the cuttings, in any of the ſummer months, in pots filled with common garden mould, and plunging them into a hotbed of tanner's bark. They will ſoon ſtrike root, and may be preſerved in this bed until the autumn; when they ſhould be taken into a warm bark ſtove, and treated like other tender plants.

They are alſo propagated by ſeeds, when they can be procured from the countries where they naturally grow. Theſe muſt be ſown in pots, filled with light, fine earth, and then plunged into a bark bed; they will readily come up; and when they are fit to remove, muſt be potted ſeparately, and managed as the cuttings.

When good ſeeds can be procured, this is the moſt eligible method of propagating theſe ſpecies, as the fineſt plants are more generally obtained that way than by the cuttings.

Titles.

1. The firſt ſpecies is titled, *Cameraria foliis ovatis utrinque acutis tranſverſè ſtriatis.* Plumier calls it, *Cameraria lato myrti folio*; and Brown, *Cameraria arborea, foliis ovato-acuminatis nitidis rigidis reflexis.* It grows naturally in the Weſt Indies. Latifolia.

2. The ſecond ſpecies is titled, *Cameraria foliis linearibus.* Plumier calls it, *Cameraria anguſto linariæ folio.* It grows naturally in Jamaica, and moſt of the Weſt India Iſlands. Angustifolia.

Claſs and Order in the Linnæan Syſtem. The characters.

Cameraria is of the Claſs and Order *Pentandria Monogynia*; and the characters are,

1. Calyx is a ſmall, connivent perianthium, cut at the top into five acute ſegments.

2. Corolla is one funnel-ſhaped petal. The tube is cylindrical, long, and ſwelling both at the top and bottom. The limb is plane, and divided into five ſpear-ſhaped, oblique ſegments.

3. Stamina are five ſmall filaments in the middle of the tube, with connivent antheræ.

4. Pistillum conſiſts of two germens, with appendages at their ſides, having ſcarcely any ſtyles, and but obſolete ſtigmas.

5. Pericarpium conſiſts of two oblong, unilocular follicules, which are horizontally reflexed, obtuſe at each end, and lobed on both ſides near the baſe.

6. Semina. The ſeeds are numerous, oval, and imbricated.

CHAP. XLV.

CAPPARIS, The CAPER SHRUB.

BESIDES the ſhort ſpecies which affords the pickled Capers for our ſauces, there are others of a more tender nature, called,

Species.

1. Indian Caper Tree, or *Bodacca.*
2. Long-fruited American Caper.
3. Ceylon Caper.
4. Siliquoſe Caper.
5. *Breynia*, or *Elæagnus*-leaved Caper.
6. Ferrugineous Caper.
7. Flexuoſe Caper Tree.
8. Haſtated Caper Tree.
9. Narrow-leaved Caper.
10. The Fair or Beautiful Caper Tree.

Indian Caper Tree,

1. Indian Caper Tree, or *Bodacca.* The ſtem is woody, covered with a ruſſet-coloured bark, ſends out many branches from the ſides, and grows to be fifteen or ſixteen feet high. The leaves are oval, oblong, perennial, and grow on long footſtalks. The flowers come out, one or two together, from the ſides of the branches on long footſtalks; they are of a white colour, and are ſucceeded by oblong, oval berries, which rarely ever ripen in England.

and Long-fruited American Caper deſcribed.

2. Long-fruited American Caper. The ſtem is robuſt, covered with a brown bark, ſends out many ſlender branches from the ſides, and grows to be twenty feet high. The leaves are oval,

obtuſe, rigid, evergreen, ribbed underneath, and grow alternately on longiſh footſtalks. The flowers come out, many together, on footſtalks, from the ends of the branches; they are large, of a white colour, and are ſucceeded by fruit near three inches in length, which do not ripen in England.

Ceylon Caper,

3. Ceylon Caper. The ſtem is woody, branching, three or four feet high, and armed with ſhort, double ſpines. The leaves are oval, oblong, and acute at both ends. The flowers come out ſingly on footſtalks from the ſides of the branches; they are like thoſe of the Common Caper Shrub, and ſaid, if gathered before they expand, to afford a pickle equally uſeful in ſauces.

Siliquoſe Caper Tree,

4. Siliquoſe Caper Tree. The ſtem is robuſt, covered with a brown bark, ſends out ſeveral ſlender branches from the ſides, and grows to be ſixteen or eighteen feet high. The leaves are oblong, ſpear-ſhaped, ſharp-pointed, of a ſplendid green colour on their upper ſides, but ſpotted or covered with a ferruginous matter underneath, and remain all the year. The flowers are produced ſingly on footſtalks, from the wings of the leaves; and they are ſucceeded by very long pods, containing the ſeeds.

Breynia, or Elæagnus-leaved Caper,

5. *Breynia*, or *Elæagnus*-leaved Caper. The ſtem is robuſt, divides near the top into many branches, which are covered with an aſh-coloured bark, and riſes to twenty or thirty feet high. The leaves are oblong, oval, pointed, ſmooth, and green on their upper ſide, but whitiſh underneath, and continue all the year. The flowers are produced in panicles from the ends of the branches, having downy footſtalks: They have alſo downy cups; but the petals are of a purple colour, and are ſucceeded by long, fleſhy berries, containing the ſeeds, which do not ripen in England.

Ferrugineous,

6. Ferrugineous Caper Tree. The ſtalks are ſhrubby, branching, and ſix or eight feet high. The leaves are ſpear-ſhaped, perennial, ferrugineous, and downy underneath. The flowers are produced in umbels from the wings of the leaves, but are rarely ever ſucceeded by berries in England.

Flexuoſe,

7. Flexuoſe Caper Tree. The ſtem is woody, and ſends forth ſeveral flexuoſe branches from the ſides. The leaves are oblong, obtuſe, ſmooth, and continue all the year. The flowers are produced in bunches from the ends of the branches; but are rarely ſucceeded by berries in England.

Haſtated,

8. Haſtated Caper Tree. The ſtem is woody, and divides into many ſlender branches. The leaves are haſtated, ſpear-ſhaped, and of a gloſſy ſurface. The flowers come out, many together, on footſtalks, from the ends and ſides of the branches; but the fruit rarely ripens in England.

Narrow-leaved,

9. Narrow-leaved Caper Tree. The ſtalk is ſhrubby, low, and branching. The leaves are extremely narrow, and come out without order. The flowers are produced in ſmall cluſters, from the ends and ſides of the branches; but are not ſucceeded by fruit in England.

and Fair, or Beautiful Caper Tree deſcribed.

10. The Fair or Beautiful Caper Tree. This ſpecies is a beautiful ſhrub, eight or ten feet high. The leaves are oblong, and obtuſe. The flowers come out in cluſters, from the ends and ſides of the branches; they are large and beautiful, and are ſucceeded by roundiſh berries, which do not ripen in England.

Culture.

Theſe ſorts are propagated from ſeeds, which muſt be procured from the places where they naturally grow. They muſt be ſown in pots, filled with light, ſandy earth, and then plunged into a hotbed of tanner's bark. When the plants are three or four inches high, they muſt be ſet ſeparately in pots, plunged again into the bark bed, and be watered and kept ſhaded until they have taken root: After that they muſt have a large ſhare of air, and frequent waterings; and in the autumn muſt be taken into the bark ſtove, where they muſt conſtantly remain, ſhifting them into larger pots as often as they ſhall require it, giving them little water in winter, but frequent watering and much free air in hot weather in ſummer.

Titles.

Baducca.

1. The firſt ſpecies is titled, *Capparis pedunculis ſubſolitariis foliis perſiſtentibus ovato-oblongis nudis determinatè confertis.* In the *Hortus Cliffort.* it is termed, *Capparis inermis, foliis ovato-oblongis per ſpatia confertis perennantibus.* Plumier calls it, *Capparis alia arboreſcens, lauri foliis, fructu oblongo-ovato*; and Rheede, *Babucca.* It grows naturally in both the Indies.

Cynophellophora.

2. The ſecond ſpecies is titled, *Capparis pedunculis multifloris terminalibus angulatis, foliis perſiſtentibus ovalibus obtuſis.* In the *Hortus Cliffort.* it is termed, *Capparis inermis, foliis ovalibus alternis perennantibus.* Plumier calls it, *Capparis arboreſcens, lauri foliis, fructu longiſſimo*; and Brown, *Breynia fruticoſa, foliis oblongis obtuſis.* It grows naturally in America.

Zeylanica.

3. The third ſpecies is titled, *Capparis pedunculis ſolitariis unifloris, ſtipulis ſpinoſis, foliis ovatis utrinque acutis.* Plumier calls it, *Capparis Zeylanica, duplicatis ſpinis, folio acuto*; and Burman, *Capparis ſpinoſa, foliis oblongis.* It grows naturally in Ceylon.

Siliquosa.

4. The fourth ſpecies is titled, *Capparis pedunculis unifloris compreſſis, foliis perſiſtentibus lanceolato-oblongis acuminatis ſubtus punctatis.* Brown calls it, *Breynia arboreſcens, foliis ovatis utrinque acuminatis, ſiliquâ toroſâ longiſſimâ.* It grows naturally in Jamaica.

Breynia.

5. The fifth ſpecies is titled, *Capparis pedunculis racemoſis, foliis perſiſtentibus oblongis, pedunculis calycibuſque tomentoſis, floribus octandris.* In the former edition of the *Species Plantarum* it is named ſimply, *Breynia.* Van Royen calls it, *Breynia foliis oblongo-ovalibus*; and Plumier, *Breynia Elæagni foliis.* It grows naturally in America.

Ferruginea.

6. The ſixth ſpecies is titled, *Capparis pedunculis umbellatis, foliis perſiſtentibus lanceolatis ſubtus tomentoſis, floribus octandris.* Brown calls it, *Cratæva fruticoſa, foliis ſingularibus oblongis utrinque acutis ſubtus quaſi villoſis, floribus octandris, racemis comoſis alaribus.* It grows naturally in Jamaica.

Flexuosa.

7. The ſeventh ſpecies is titled, *Capparis pedunculis congeſtis terminalibus, foliis perſiſtentibus oblongis obtuſis glabris, ramis flexuoſis.* In the *Amœnitates Academicæ* it is termed, *Moriſona flexuoſa.* It grows naturally in Jamaica.

Hastata.

8. The eighth ſpecies is titled, *Capparis pedunculis multifloris, foliis haſtato-lanceolatis nitidis.* It grows naturally in America.

9. The ninth ſpecies is titled, *Capparis floribus ſubracemoſis, foliis linearibus.* It grows naturally in America.

10. The tenth ſpecies is titled, *Capparis floribus racemoſis, foliis oblongis obtuſis, fructibus baccatis.* It grows naturally in America.

CHAP. XLVI.

CAPSICUM, GUINEA PEPPER.

THERE are two real ſpecies of the *Capſicum.* One is an Annual, and has been largely treated of in that place; the other is a ſhrub that requires the warmth of the Stove.

Of the Annual *Capſicum* there are many varieties: This alſo wonderfully varies in the ſize, ſhape, and figure of the fruit. The name of the ſpecies is the Shrubby *Capſicum*, and the principal varieties of it are,

Species.

Varieties.

Conical Red-fruited Shrub *Capſicum.*
Conical Golden *Capſicum.*
Small Pyramidical Red-fruited Shrub *Capſicum.*
Yellow Pyramidical-fruited Shrub *Capſicum.*
Oval-fruited Shrub *Capſicum.*

The plant deſcribed. The Shrubby *Capſicum* will arrive, with its ſhrubby branches, to the height of about four or five feet. The leaves vary a little in ſome of the varieties; they are generally long, narrow, and of a ſhining green colour, tho' ſometimes they will be broader, and ſome will be finely veined with purple. The flowers are ſmall, and white, and the fruit in general is very ſmall in reſpect to the Annual *Capſicum.* It is of different figures, according to the different varieties, and ſhews itſelf to perfection in the winter in our Stoves.

Culture. The culture of the Shrubby *Capſicum* is this: Sow the ſeeds on a hotbed the firſt week in March. When the heat of this bed is abated, remove them to another, with a good ball of earth to each plant; water them ſparingly, ſhade the glaſſes as the hot weather comes on; and give the plants all poſſible air in mild ſeaſons. When the heat of this ſecond bed is abated, take up the plants, and ſet them in pots filled with good, freſh, light mould; then plunge theſe pots into a third hotbed, and there let them remain all ſummer: The bed muſt have a deep frame. As the plants encreaſe in height, the glaſſes muſt be raiſed. Always ſhade them in the heat of the ſummer, and give them plenty of water all that ſeaſon. In the autumn they will flower; and in winter their fruit will be ripe, when they will make a ſweet variety among other plants in the Stove at that ſeaſon.

It is obſervable, that theſe plants will flouriſh better in a moderate warmth than in the hotteſt Stove.

This ſpecies is titled, *Capſicum caule fruticoſo, pedunculis geminis.* In the *Hortus Cliffort.* it is termed, *Capſicum fruteſcens.* Cluſius calls it, *Capſicum Braſilianum*; Rumphius, *Capſicum Indicum*; Brown, *Capſicum fructu minimo conico rubro*; and Sir Hans Sloane, *Capſicum minus, fructu parvo pyramidali erecto.* It grows naturally in both the Indies. Titles. Frutes= =cens.

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CHAP. XLVII.

CARICA, PAPAW.

Species. THIS genus conſiſts of two ſpecies:

1. The Common Indian Papaw Tree.
2. Surinam Papaw-tree.

Common Indian Papaw Tree deſcribed. 1. The Common Indian Papaw Tree. The ſtem is upright, thick, ſoft, green, retains the marks of fallen leaves, and grows to twenty or thirty feet high. The leaves are very large, divided into many ſinuated lobes of a bright green colour, and come out from every ſide of the ſtem near the top, on long, hollow footſtalks. The male flowers are produced in cluſters, from the upper parts of the plant, on long footſtalks; but the females have ſhort ones, ſitting cloſe to the ſtem. The male flowers are of a white colour, and finely ſcented; but the females are yellow, and in ſome varieties purple; and they are ſucceeded by large fleſhy fruit of different ſizes and ſhapes, and of a yellow colour when ripe.

Varieties. The varieties of this ſpecies go by the names of the Melon Papaw Tree, the Gourd Papaw Tree, the Pear Papaw Tree, from the fruit reſembling thoſe of the Melon, Gourd, Pear, and the like. They are eaten in the Indies, as we do Melons, to which they are vaſtly inferior, eſpecially thoſe that ripen in England, which are hardly eatable.

and Surinam Papaw Tree deſcribed. 2. Surinam Papaw Tree. The ſtem is upright, branching, and twenty feet high. The leaves are very large, and divided into lobes, which are not ſinuated on their edges. The flowers are produced in ſmall cluſters from the upper parts of the branches; they are of a reddiſh colour, and are ſucceeded by a very large, pear-ſhaped fruit, which is of a yellow colour when ripe.

The fruit of this alſo varies in ſize or ſhape, and in India is ſaid to be of a fine ſweet flavour.

Culture. Theſe are propagated by ſowing the ſeeds on a hotbed early in the ſpring. When the plants are three or four inches high, each muſt be ſet in a ſeparate pot filled with light, rich earth, and plunged into a hotbed of tanner's bark. They muſt be ſhaded at firſt, and very lightly watered, for over-watering will kill them; eſpecially when young, they being ſoft, tender, and full of an acrid, milky juice. Early in the autumn they muſt be taken into a good bark ſtove, where they muſt conſtantly remain, ſhifting them, with great care not to diſturb the mould from the roots, from time to time into larger pots, as often as they require it; keeping them very warm, and giving them little water in winter; and frequent, tho' but ſlight waterings in ſummer. In about three years they will be grown to be twenty feet high or upwards, and will produce flowers and fruit in abundance. Theſe have a ſingular and grand appearance in the ſtove, and are thought by many to be as well worth cultivating for curioſity, as any plants that are found in that place.

Titles.

Papaya.

1. The firſt ſpecies is titled, *Carica foliorum lobis ſinuatis.* Brown calls it, *Carica fronde comoſâ, foliis peltatis: lobis variè ſinuatis*; Caſpar Bauhine, *Arbor platani folio, fructu peponis magnitudine eduli*; Plukenet, *Ficus arbor utriuſque Indiæ, platani foliis, monopeteches*; and Trew, *Papaya fructu oblongo, melonis effigie.* It grows naturally in both the Indies.

Poſoposa.

2. The ſecond ſpecies is titled, *Carica foliorum lobis integris.* Brown calls it, *Carica ſylveſtris minor, lobis minus diviſis, caule ſpinis inermibus*; Fewill, *Papaya ramoſa, fructu pyriformi*; Plukenet, *Ficus arbor papajæ ſylveſtris nomine miſſa*; and Petiver, *Platani folio arbor Poſopoſo Philippenſis.* It is a native of Surinam.

Claſs and Order in the Linnæan Syſtem. The characters.

Carica is of the Claſs and Order *Dioecia Decandria*; and the characters are,

I. Male.

1. Calyx is very ſmall.

2. Corolla is one funnel-ſhaped petal. The tube is ſlender, and very long. The limb is divided into five ſpear-ſhaped, linear, obtuſe, revoluted ſegments.

3. Stamina are ten filaments in the top of the tube, five of which are alternately ſhorter than the other, having oblong antheræ.

II. Female.

1. Calyx is a ſmall, permanent perianthium, indented in five parts at the top.

2. Corolla is five very long, ſpear-ſhaped, linear, obtuſe petals, which turn backward at the top.

3. Pistillum conſiſts of an oval germen, a very ſhort ſtyle, and five oblong, plane, patent, crenated ſtigmas.

4. Pericarpium is a very large, ſulcated berry, containing one cell.

5. Semina. The ſeeds are numerous, oval, ſulcated, and tunicated.

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C H A P. XLVIII.

CARYOPHYLLUS, The CLOVE TREE.

The plant deſcribed.

THE Clove Tree is very robuſt, growing to about twenty feet high. The bark is ſmooth, thin, and of a brown colour; and the branches are numerous, ſlender, and divide themſelves in ſuch a manner as to form a beautiful head, which ſometimes is round, and ſometimes grows to the ſhape of a cone, not much unlike the Common Lime-tree. The leaves adorn the branches in great plenty; their figure is oblong, and like that of the Bay-tree; they are poſſeſſed of a ſpicy fragrance, and grow oppoſite to each other on the branches. The flowers come out in cluſters from the ends of the branches; they are ſmall, and very fragrant; their colour is white, on their firſt coming out; but they alter to a brown, and afterwards to a very dark colour, and are ſucceeded by an oval fruit.

It is this fruit that is the noted ſpice called Cloves. It is beaten from the trees when about half grown, having the permanent, quadrifid calyx at the top. The time of gathering it is uſually in November; after which it is dried, and then packed up for exportation, to be vended for uſe.

Culture.

This is the only ſpecies belonging to this genus. The culture of it is ſeldom attempted in England; but if good ripe ſeeds were procured from the places of its natural growth, carefully preſerved in ſand, and ſown in light, ſandy, freſh earth in pots, (plunging the pots up to the rims in a good bark-bed,) it is paſt a probability but they would come up. Reaſon directs their after-management, viz. That each ſhould be planted in a ſeparate pot, which muſt be directly plunged into the ſtrongeſt bark-bed, as before, where they ſhould be watered and ſhaded until they have taken root. From time to time they ſhould be ſhifted into larger pots, ſhould have but little water, and ſhould always be kept in the hotteſt Stove; for the tree is a native of the Molucca Iſlands, and flouriſhes, regardleſs of ſhade, in thoſe parched countries of the earth.

Titles.

Aromaticus.

There being no other ſpecies of this genus, it ſtands ſimply with the name, *Caryophyllus.* Caſpar Bauhine calls it, *Caryophyllus aromaticus fructu oblongo*; Plukenet, *Caryophyllus aromaticus Ind. Orient. fructu clavato monopregno*; and Cluſius, *Caryophyllus.* It is a native of the Moluccas.

Claſs and Order in the Linnæan Syſtem. The characters.

Caryophyllus is of the Claſs and Order *Polyandria Monogynia*; and the characters are,

1. Calyx is double, there being a perianthium for the flower, and another for the fruit. The perianthium of the flower is compoſed of four roundiſh, concave, deciduous leaves. The perianthium of the fruit is ſmall, acute, permanent, and divided into four parts.

2. Corolla is four roundiſh, crenated petals, ſhorter than the leaves of the calyx of the flower.

3. Stamina are numerous, capillary filaments, with ſimple antheræ.

4. Pistillum conſiſts of a large, oblong germen, ſituated below the flower; a ſimple ſtyle, inſerted in a quadrangular receptacle; and a ſimple ſtigma.

5. Pericarpium is an oval, unilocular, umbilicated berry, terminated by the calyx of the fruit, the ſegments of which become hardened, and connivent.

6. Semen. The ſeed is ſingle, oval, and large.

CHAP. XLIX.

CASSIA, WILD SENNA.

Species.

OF this genus are the following ſpecies, called,

1. The Pudding Pipe-tree, or Purging *Caſſia* of Alexandria.
2. Purging *Caſſia* of Braſil.
3. Bicapſular *Caſſia*.
4. Emarginated-leaved Caſſia of the Caribbees.
5. Two-flowered American *Caſſia*.
6. Bahama *Caſſia*.
7. Winged-podded American *Caſſia*.
8. Small-podded *Caſſia* of the Havanna.

udding Pipe Tree or Purging Caſſia of Alexandria,

1. Pudding Pipe-tree, or Purging *Caſſia* of Alexandria. In India, where this tree grows naturally, it riſes to forty or fifty feet high, having a very large trunk, which is covered with a yellowiſh, tough bark, and ſends forth many branches, which ſpread themſelves all around. The leaves are pinnated, being compoſed of five pair of oval, ſharp-pointed, ſmooth pinnæ, arranged along the common midrib, the footſtalk of which is free from glands. The flowers are produced in ſpikes from the ends of the branches; they are of a deep-yellow colour, have moderately long footſtalks, and are ſucceeded by long, round, browniſh, hard, cruſted pods, which will be ſometimes two feet long, and contain the ſeeds, and the pulp uſed in medicine. The ſeeds are oval, ſmooth, and compreſſed; and the pulp is of a blackiſh colour, ſweet to the taſte, and ſerves for many purpoſes in phyſic.

Purging Caſſia of Braſil,

2. Purging *Caſſia* of Braſil. This alſo in its native country grows to be a large timber-tree, riſing with a ſtrong trunk to a great height, and ſends forth branches all around. The leaves are pinnated, and their footſtalks have no glands: The folioles of each leaf conſiſt of about twelve pair of folioles; theſe are oblong, obtuſe, ſmooth, of a light green colour, and placed near together on the mid-rib. The flowers grow from the ends of the branches in looſe ſpikes; they are of a pale carnation colour, and are ſucceeded by large, roundiſh pods, containing the ſeeds, and a black pulp of a violent purging quality.

This is often called Horſe *Caſſia*; it being a coarſe, ſtrong purge, and is generally given to horſes.

Bicapſular Caſſia,

3. Bicapſular *Caſſia*. This is a ſhrub about eight or ten feet high. The leaves are compoſed of three pair of oval, ſmooth pinnæ, the inner ones being ſmaller than the others; they are of a light-green colour, downy underneath, and between them is ſituated a globular gland. The flowers are produced from the upper parts of the branches; they are ſmall, of a yellow colour, and are ſucceeded by double pods, containing two rows of ſeeds.

Emarginated-leaved Caſſia of the Caribbees,

4. Emarginated-leaved *Caſſia* of the Caribbees. This is a low ſhrub, ſeldom growing with us higher than three or four feet. The leaves are each compoſed of three pair of oval, roundiſh pinnæ; Theſe are of equal ſize, their edges are emarginated, and their colour is a pale green. The flowers are produced from the upper parts of the ſtalks, for a conſiderable length; they are of a yellowiſh colour, and ſucceeded by oblong pods, containing the ſeeds.

Two-flowered American Caſſia,

5. Two-flowered American *Caſſia*. This is a ſhrub of the ſame height with the former. The leaves are each compoſed of ſix pair of oblongiſh, ſmooth pinnæ, the lower ones being the ſmalleſt; and between them is ſituated an awl-ſhaped glandule. The flowers are produced from the wings of the leaves on footſtalks, two, for the moſt part, growing together; though ſometimes three flowers, and even four, will make their appearance from the ſame points; and they are ſucceeded by jointed, flat pods.

Bahama Caſſia,

6. Bahama *Caſſia*. This is a ſhrub covered with leaves, compoſed each of ſeven pair of pinnæ, that are ſpear-ſhaped, ſmooth on their upper ſurface, and a little downy underneath; the laſt are the ſmalleſt; and at the baſe of the footſtalk of each leaf a ſmall gland is ſituated. The flowers grow, many together, from the upper parts of the ſtalks; they are of a yellow colour, and are ſucceeded by oblong, compreſſed pods, containing a few roundiſh ſeeds.

Winged-podded American Caſſia,

7. Winged-podded American *Caſſia*. The ſtalks of this ſpecies are ligneous, tough, pithy, and grow to about ſix feet high. The leaves are very long, being compoſed of eight pair of large, oval, oblong pinnæ, of which the inner ones are the ſmalleſt; they are finely arranged along the midrib, and the footſtalks are free from glands. The flowers are produced in looſe ſpikes from the ends of the branches; they are large, yellow, and are ſucceeded by long, taper pods, which have four borders or wings running the whole length. The ſeeds are roundiſh, angular, and arranged in a double ſeries.

This is one of the ſtinking ſpecies of this genus.

and Small-podded Caſſia of the Havanna deſcribed.

8. Small-podded *Caſſia* of the Havanna. This ſpecies riſes, with a ſhrubby, tough ſtalk, to the height of four or five feet. The leaves are compoſed of nine pair of oblong pinnæ, having an awl-ſhaped glandule ſituated between the loweſt pair. The flowers are of a yellow colour, ſmall, and are ſucceeded by very ſmall, narrow pods.

Culture.

Theſe ſorts are eaſily raiſed by ſowing the ſeeds in pots, filled with light, ſandy, freſh earth, in the ſpring. The pots ſhould be then plunged up to the rims in the mould of a moderate hotbed, and the plants will ſoon come up. When they are grown to moderate ſtrength, (for they will not bear tranſplanting very young,) they muſt be ſhifted: Each plant muſt have its own ſeparate pot; and in removing them, as much mould muſt be preſerved to the roots as may be; at leaſt, not a fibre, nor any part of the root ought to be bruiſed or broken. When they are ſet in theſe pots, they muſt be plunged up to the rims in another hotbed, and muſt be conſtantly ſhaded and watered until they have taken root. This will ſoon be; for all the plants are free growers, with good management, and then more air muſt be allowed them as the weather will permit: Water muſt be now and then granted them; but ſhade ought to be continued them from the violence of the ſun's rays in the heat of the day. Before the end of ſummer your plants will have made conſiderable advances, eſpecially if they have the advantages of a third hotbed, which is not abſolutely neceſſary,

ceſſary, tho' by ſome practiſed; for they may be kept in good condition in the ſecond hotbed, tho' the heat be abated, until the end of ſummer. This is the time to remove them into the ſtove. The pots muſt be plunged in the bark-bed, and all winter they muſt have very little water, for their nature does not require it. In ſummer they muſt be now and then watered, and as much air as poſſible ſhould be given them; but they ſhould be never removed out of the ſtove, if you chooſe them to exhibit their flowers fair, and expect from them a fine ſhow of their long pods, which contribute not a little to the beauty of theſe plants. From time to time they muſt be ſhifted into larger pots, as their ſize requires it; at every ſhifting they muſt be ſlightly watered, and always ſhaded until they are eſtabliſhed in their new mould: And this is the general management of theſe plants.

The firſt two ſpecies, tho' large timber-trees in their native countries, in our ſtoves ſeldom grow to more than fourteen or fifteen feet high; ſo that they are not out of the limits of ſuch a ſtation. They begin flowering generally when they are about eight feet high, and continue to exhibit their bloom more and more every year, making a delightful appearance, and affording great ſatisfaction to the owners, from the reflection of their being poſſeſſed of ſuch Indian treaſures. They are all ſleepers; cloſe their leaves in evenings with their under-ſide upwards, the more effectually to inhale the nightly dews; and always expand them again in mornings with the riſing ſun.

Good ſeeds from theſe two ſorts may be eaſily obtained from the Druggiſts, who have the pods conſtantly imported every year for uſe.

Titles. Fistula. 1. The Pudding Pipe-Tree, or *Caſſia* of Alexandria is titled, *Caſſia foliis quinquejugis ovatis acuminatis glabris, petiolis eglandulatis.* In the *Hortus Cliffort.* it is termed, *Caſſia foliolis quinqueparium lanceolatis: extimis minoribus.* Caſpar Bauhine calls it, *Caſſia fiſtula Alexandria.* It grows naturally in India and Ægypt.

2. Purging *Caſſia* of Braſil is titled, *Caſſia foliis duodecim-jugatis oblongis obtuſis glabris, glandulâ nullâ.* Commeline calls it, *Caſſia fiſtula Javanica, flore carneo*; Brown, *Caſſia foliis plurimis oblongis, flore rubello, ſiliquis maximis craſſioribus trinerviis*; Caſpar Bauhine, *Caſſia fiſtula Braſiliana*; and Sloane, *Caſſia nigra ſ. fiſtuloſa ſecunda.* It is a native of both the Indies. Javanica.

3. Bicapſular *Caſſia* is titled, *Caſſia foliis trijugis obovatis glabris: interioribus rotundioribus minoribus: glandulâ interjectâ globoſâ.* Plumier calls it, *Caſſia hexaphylla, ſiliquâ bicapſulari.* It grows naturally in India. Bicapsularis.

4. Emarginated *Caſſia* of the Caribbees is titled, *Caſſia foliis trijugis ovatis rotundatis emarginatis æqualibus.* Sloane calls it, *Caſſia minor hexaphylla fruticoſa, ſennæ foliis.* It is a native of the Caribbees. Emarginata.

5. Two-flowered American *Caſſia* is titled, *Caſſia foliis ſejugis oblongiuſculis glabris inferioribus minoribus, glandulâ ſubulatâ inter infima, pedicellis ſubbifloris.* In the *Amœnitates Academicæ* it is termed, *Caſſia biflora.* Brown calls it, *Caſſia fruticoſa, foliis minoribus obovatis ſexjugatis, floribus geminis ſ. bigeminatis, racemis alaribus*; and Plumier, *Caſſia minor arboreſcens, ſiliquis planis articulatis.* It grows naturally in America. Biflora.

6. Bahama *Caſſia* is titled, *Caſſia foliis ſeptemjugis lanceolatis extimis minoribus, glandulâ baſeos petiolorum.* Plumier calls it, *Caſſia liguſtri folio*; and Martin, *Caſſia Bahamenſis, pinnis foliorum mucronatis anguſtis, calyce floris non reflexo.* It grows naturally in Virginia and Bahama. Ligustrina.

7. Winged-podded American *Caſſia* is titled, *Caſſia foliis octojugis ovali-oblongis: interioribus minoribus, petiolis eglanduloſis, ſtipulis patulis.* Plumier calls it, *Caſſia ſylveſtris fœtida, ſiliquis alatis.* It is a native of the warmer America. Alata.

8. Small-podded *Caſſia* of the Havanna is titled, *Caſſia foliis novemjugis oblongis, glandulâ ſubulatâ inter infima.* In Houſton's *MSS.* it is termed, *Senna ſpuria fruteſcens, ſilquis tenuiſſimis.* It is a native of the Havanna. Tenuissima.

CHAP. L.

CATESBÆA, LILY THORN.

THIS genus at preſent conſiſts only of one ſpecies, called the Lily Thorn.

The plant deſcribed. The ſtem is woody, covered with pale ruſſet bark, ten or twelve feet high, and ſends forth branches alternately almoſt the whole length. The leaves reſemble thoſe of the Box-tree, are ſmall, and grow in cluſters. The flowers are produced ſingly from the ſides of the branches; they are very long, pendulent, and of a bad yellow colour; and are ſucceeded by oval, fleſhy berries, which are of a ſaffron colour when ripe.

Culture. This plant is propagated by ſowing the ſeeds in pots filled with light, ſandy, freſh earth, and plunging them into a hotbed of tanner's bark. The mould muſt be kept moiſt with ſlight waterings at proper intervals; and when they come up, the like kind of watering muſt be afforded them, and as much air as the weather will permit, in the middle of the day. They muſt be cloſely covered down in the evenings; and when the heat of the bed abates it muſt be renewed, or the plants muſt be plunged into the bark bed of a good ſtove. All winter they muſt be kept very warm, and have but little water; and in March muſt be ſet ſeparately in pots filled with light, ſandy, freſh earth. They muſt be next plunged again into a good bark bed, be ſhaded, and ſlightly watered until they have taken root: Afterwards they muſt have plenty of air, eſpecially in hot weather; and in the autumn muſt be taken into the warmeſt bark ſtove; where they ſhould conſtantly remain, ſhifting them from time to time into larger pots as often as they ſhall require it, and affording them all proper care and good management due to tender plants.

There being no other ſpecies of this genus, it is named ſimply, *Cateſbæa.* Cateſby, in whoſe honour the name is given, calls it, *Frutex ſpinoſus, buxi foliis ſimul naſcentibus, flore tetrapetaloide pendulo ſordidè flavo tubo longiſſimo, fructu ovali croceo ſemine parva condinente.* It grows naturally in Providence. Titles. Spinosa.

Cateſbæa is of the Claſs and Order *Tetrandria Monogynia*; and the characters are, Claſs and Order in the Linnæan Syſtem.

1. CALYX

The characters.

1. Calyx is a ſmall, permanent perianthium, placed above the germen, and indented in four acute parts at the top.

2. Corolla is one funnel-ſhaped petal. The tube is extremely long, ſtraight, and thickens gradually to the top. The limb is broad, and cut into four erect, plane ſegments.

3. Stamina are four filaments within the neck of the tube, having oblong, erect antheræ, which reach to the top of the corolla.

4. Pistillum conſiſts of a roundiſh germen ſituated below the calyx, a filiforme ſtyle the length of the corolla, and a ſimple ſtigma.

5. Pericarpium is an oval, coronated berry, containing one cell.

6. Semina. The ſeeds are many, and angular.

CHAP. LI.

CEANOTHUS, NEW JERSEY *THEA*.

In the ſtove muſt be ſtationed, Aſiatic *Ceanothus*.

The plant deſcribed. This is a branching ſhrub, about four feet high. The leaves are oval, pointed, and grow oppoſite to each other, without any footſtalks. The flowers come out in ſmall bunches, and alſo ſingly, from the wings of the leaves; they have ſhort footſtalks, and are of an herbaceous colour, appear in July, and are ſucceeded by oval, obtuſe, berries, containing the ſeeds.

Culture. It is propagated by ſowing the ſeeds in pots filled with rich, light earth. The pots muſt be directly plunged up to the rims in a good hotbed; and when the plants come up, the weakeſt ſhould be drawn out, leaving one good plant only to a pot. When the heat of the bed is abated, it ſhould be lined with freſh dung; and when the heat of that alſo is evaporated, the plants ſhould be ſhifted into larger pots, to be plunged into a ſecond hotbed In doing of this, care muſt be taken not to diſturb the mould at the roots. If this ſecond hotbed is of tanner's bark, it will be ſufficient to keep the plants in a thriving ſtate until it is time to remove them into the ſtove; if of dung only, when the heat is evaporated, the plants muſt have the benefit of a third hotbed; and from this in the autumn they ſhould be removed into the bark ſtove, where a good degree of heat muſt be allowed them.

Titles. Asiaticus. This ſpecies is titled, *Ceanothus foliis ovatis enerviis*. In the *Flora Zeylanica* it is termed, *Ceanothus racemis folio brevioribus*. Burman calls it, *Groſſularia ſpinis vidua, baccis in racemo congeſtis ſpadiceis, foliis crenatis ovato-acuminatis*; and Plukenet, *Spireæ Theopraſti ſimilis frutex Indicus, latiori folio*. It is a native of Ceylon.

CHAP. LII.

CEDRELA, BARBADOES CEDAR-TREE.

This genus at preſent conſiſts only of one ſpecies, called, The Cedar-Tree of Barbadoes.

The plant deſcribed. The trunk is very large, ſtraight, branching near the top, and eighty or ninety feet high. The leaves are pinnated, and very long, the folioles being ſixteen or eighteen pair along the midrib, broad at their baſe, obtuſe, and ſtrongly ſcented. The flowers are produced in panicles from the ends of the branches, and are ſucceeded by large, woody, roundiſh capſules, containing the ſeeds.

The wood of this tree is of a reddiſh-brown colour, and finely ſcented; it is very light and ſoft, and the trunks growing very large, are hollowed into boats in the Weſt Indies. It is uſed alſo for wainſcotting of rooms, making of cheſts, &c. on which account it is highly valued, not only for its being of great fragrance, but becauſe it communicates a fine odour to whatever is put in them.

Culture. It is propagated here by ſeeds, which muſt be procured from the places where the tree naturally grows. They ſhould be ſown in pots filled with light, ſandy earth, and plunged into a hotbed of tanner's bark: The mould in the pots ſhould be kept moiſt with ſlight ſprinklings of water at proper intervals; and in about five weeks, if the ſeeds were good, the plants will come up. When they are about three or four inches high, they muſt be ſet ſeparately in pots filled with the like kind of light earth, be plunged up to the rims in a good bark-bed, and watered and kept ſhaded until they have taken root. After that they muſt have more air, and in the autumn muſt be taken into the warmeſt bark ſtove; where they muſt conſtantly remain, ſhifting them from time to time, but with the ſtricteſt caution not to diſturb the mould about the roots, into larger pots as often as they ſhall require it, keeping them very warm, and watering them very ſparingly in winters, but giving them frequent waterings and plenty of free air in hot weather in ſummers.

Titles. Odorata. The Cedar-Tree is titled, *Cedrela floribus paniculatis*. Brown calls it, *Cedrela foliis pinnatis, floribus laxè racemoſis, ligno levi odorato*; Plukenet, *Cedrus Barbadenſium, alatis fraxini foliis*; and Sloane, *Pruno forte affinis arbor maxima materiâ rubrâ laxâ odoratâ*. It grows naturally in the Weſt Indies.

Claſs and Order in the Linnæan Syſtem. *Cedrela* is of the Claſs and Order *Pentandria Monogynia*; and the characters are,

The characters.

1. Calyx is a ſmall, monophyllous, bell-ſhaped, withering perianthium, having five indentures at the top.

2. Corolla is funnel-ſhaped, and compoſed of five linear, oblong, obtuſe, erect petals.

3. Stamina are five awl-ſhaped filaments ſhorter than the corolla, having oblong antheræ.

4. Pistillum conſiſts of a globular germen, a cylindrical ſtyle the length of the corolla, and a capitated, depreſſed ſtigma.

5. Pericarpium is a roundiſh, ligneous, five-valved capſule, containing five cells.

6. Semina. The ſeeds are numerous, fleſhy, imbricated, and each of them is terminated by a thin, leafy membrane.

CHAP. LIII.

CERBERA.

Species. THIS genus conſiſts of three ſpecies, viz.

1. The *Ahouai.*
2. Milky *Manghas.*
3. Narrow-leaved *Cerbera.*

Ahouai, 1. *Ahouai.* The ſtem is woody, ſends out numerous crooked, irregular branches, and grows to be ten or twelve feet high. The leaves are oval, thick, ſucculent, ſmooth, of a bright-green colour, and full of a milky juice. The flowers are produced in bunches from the ends of the branches; they are of a cream-colour, appear in July and Auguſt, but are not ſucceeded by fruit in England. The nuts of this tree are a deadly poiſon; and the wood, and the milk which flows from it, has ſuch an intolerable ſtench, that it cannot be uſed by the Indians: When the wood is burned, it is ſaid to emit a ſtrong ſtench like that of human excrement. The Indians put ſmall ſtones into the ſhells of the nuts, tie them about their legs, and divert themſelves with the jinglings they afford in their capers and dancing.

Milky Manghas, 2. Milky *Manghas.* The ſtem is woody, thick, branching near the top, and twenty or thirty feet high. The leaves are ſpear-ſhaped, thick, ſucculent, entire, nerved tranſverſely, grow alternately, and are full of a milky juice. The flowers are produced in bunches from the ends of the branches; they are of a white colour, and in India are ſucceeded by large, fleſhy fruit, of a deadly poiſon. This ſpecies alſo ſtinks intolerably when burned.

and Narrow-leaved Cerbera deſcribed. 3. Narrow-leaved *Cerbera.* The ſtem is woody, thick, round, branching, and twelve or fourteen feet high. The leaves are narrow, long, grow in cluſters, and are full of a milky juice. The flowers are produced, two or three together, on long footſtalks, from the ſides of the branches; they are of a yellow colour, appear in July and Auguſt, but are not ſucceeded by fruit in England.

Culture. They are propagated by planting the nuts, procured from the countries where they naturally grow, in pots filled with light, ſandy earth, and plunging them into a hotbed of tanner's bark. The mould muſt be now and then moiſtened; but when the plants come up, watering with the utmoſt caution muſt be granted them; for being then tender, and full of a milky juice, if they have it in too great quantities it will kill them. When they are three or four inches high, they muſt be ſet ſeparately in pots filled with the like kind of ſandy, light earth, be again plunged into the bark-bed, moderately watered, and kept ſhaded until they have taken root. They muſt next be accuſtomed to mild air, and in hot-weather muſt have frequent tho' light waterings. In the autumn they muſt be taken into the warmeſt bark ſtove, where they muſt conſtantly remain, ſhifting them from time to time into larger pots as often as they ſhall require it, and affording them all neceſſary treatment due to tender plants.

Titles. 1. The firſt ſpecies is titled, *Cerbera foliis ovatis.* In the *Hortus Cliffort.* it is termed, *Thevetia.* Tournefort calls it, *Ahouai*; and Caſpar Bauhine, *Arbor Americana, foliis pomi, fructu triangulo.* It grows naturally in the Brazils, and the Spaniſh Weſt Indies. Ahouai

2. The ſecond ſpecies is titled, *Cerbera foliis lanceolatis: nervis tranſverſalibus.* Burman calls it, *Manghas lacteſcens, foliis nerii craſſis venoſis, jaſmini flore, fructu Perſici ſimili venenato*; Caſpar Bauhine, *Manghas fructu venenato*; and Rumphius, *Arbor lactaria.* It grows naturally in both the Indies. Mang=has.

3. The third ſpecies is titled, *Cerbera foliis linearibus longiſſimis confertis.* Plumier calls it, *Ahouai nerii folio, flore luteo*; and Plukenet, *Nerio affinis anguſtifolia lacteſcens, flore luteo.* It grows naturally in America. Theve=tia.

Cerbera is of the Claſs and Order *Pentandria Monogynia*; and the characters are,

1. Calyx is a perianthium compoſed of five oval, ſpear-ſhaped, pointed, ſpreading leaves.

2. Corolla is one funnel-ſhaped petal. The tube is long, and pentangular at the top: The limb is large, and divided into five obtuſe, oblique parts.

3. Stamina are five awl-ſhaped filaments, in the middle of the tube, having erect, connivent antheræ.

4. Pistillum conſiſts of a roundiſh germen, a ſhort filiforme ſtyle, and a capitated, bilobed ſtigma.

5. Pericarpium is a large, roundiſh, fleſhy drupe, longitudinally furrowed on one ſide.

6. Semen is a retuſed nut, formed of four valves, and containing two cells.

CHAP. LIV.

CESTRUM, BASTARD JESSAMINE.

THIS genus at preſent conſiſts only of two ſpecies, called,

Species.

1. Nocturnal *Ceſtrum.*
2. Diurnal *Ceſtrum.*

Nocturnal Ceſtrum deſcribed.

1. Nocturnal *Ceſtrum.* The ſtem is woody, upright, divided into many ſlender branches near the upper parts, and ſix or eight feet high. The leaves are like thoſe of a Bay-tree, ſmooth, firm, veined underneath, and grow alternately on footſtalks. The flowers come out in ſmall cluſters on footſtalks from the wings of the leaves, are of a greeniſh-yellow colour, and of the moſt heightened fragrance; they appear in Auguſt, but are not ſucceeded by ſeeds in England.

Variety.

There is a variety of this ſpecies with yellow flowers, and dark-blue poiſonous fruit, but of inferior fragrance to the former, which has gone under the cant names of Night Cheerer, Queen of the Evening, and Lady of the Night, from its ſo profuſely diſperſing its odoriferous particles after ſun-ſet.

Diurnal Ceſtrum deſcribed.

2. Diurnal *Ceſtrum.* This plant alſo is called Queen of the Morning, Lady of the Day, from its uncommon fragrance in the day-time. The ſtem is woody, upright, ſmooth, divides upwards into many branches, and grows to be eight or ten feet high. The leaves are like thoſe of Spurge Laurel, oblong, ſmooth, of a thick conſiſtence, a dark and chearful green colour, and grow alternately. The flowers come out in cluſters from the wings of the leaves, ſitting cloſe, having no footſtalks; they are of a white colour, appear in July and Auguſt, but are not ſucceeded by ripe ſeeds in England.

Culture.

Theſe plants are propagated by planting the cuttings in any of the ſummer months in pots filled with light, rich earth, and plunging them into a hotbed of tanner's bark; they muſt be watered and kept ſhaded until they have taken root, and then muſt have gradually a good ſhare of air, eſpecially in hot weather. When they are in a good growing ſtate, each plant ſhould have a ſeparate pot, and be again plunged into the hotbed, where they muſt be watered and kept ſhaded at firſt: Afterwards they muſt be hardened by granting them a due admiſſion of air, and in the autumn muſt be taken into the cooleſt ſtove; for they are moderately hardy, and require only a ſmall degree of artificial heat to keep them in a good flouriſhing ſtate. In winter they muſt have little water, but in ſummer the waterings muſt be frequent and conſtant, eſpecially in hot weather.

They are alſo propagated by ſeeds, which muſt be procured from the places where they naturally grow. Theſe muſt be ſown in pots filled with light, rich earth; and when the plants are about three or four inches high, they muſt be potted ſeparately, and managed as the cuttings.

Trees raiſed from ſeeds are of ſuperior beauty to thoſe raiſed from cuttings; ſo that whenever there is the conveniency of obtaining them from their native places of growth, that method of propagation is to be preferred.

Titles.

Nocturnum.

1. The firſt ſpecies is titled, *Ceſtrum floribus pedunculatis.* Dillenius calls it, *Jaſminoides foliis piſhaminis, flore vireſcente noctu odoratiſſimo*; Sloane, *Jaſminum laurinis foliis, flore pallido luteo, fructu atro-cæruleo polypyreno venenato*; Fewill, *Parqui*; and Plukenet, *Syringa latifolia Jamaicenſis, floribus ex flavo palleſcentibus.* It grows naturally in Jamaica and Chili.

Diurnum.

2. The ſecond ſpecies is titled, *Ceſtrum floribus ſeſſilibus.* Dillenius calls it, *Jaſminoides laureolæ folio, flore candido interdiu odorato*; Plukenet, *Laureola ſempervirens Americana, latioribus foliis, floribus albis odoratis*; and Fewill, *Hediunda jaſmini flore.* It is a native of Chili and the Havannah.

Claſs and Order in the Linnæan Syſtem.

Ceſtrum is of the Claſs and Order *Pentandria Monogynia*; and the characters are,

The characters.

1. Calyx is a very ſhort, monophyllous, tubular, taper perianthium, cut at the top into five erect, obtuſe, obſolete ſegments.

2. Corolla is one funnel-ſhaped petal. The tube is cylindrical, very long, and ſlender. The faux is roundiſh. The limb is plane, plicated, and cut into five oval, equal ſegments.

3. Stamina are five filiforme filaments growing longitudinally to the tube, having roundiſh, four-cornered antheræ within the opening of the petal.

4. Pistillum conſiſts of a cylindrical, oval germen the length of the calyx, a filiforme ſtyle the length of the ſtamina, and a thickiſh, obtuſe, ſlightly emarginated ſtigma.

5. Pericarpium is an oval, oblong berry, containing one cell.

6. Semina. The ſeeds are many, and roundiſh.

* * *

CHAP. LV.

CHIOCOCCA.

THERE are two ſpecies of this genus:

Species.

1. Racemoſe *Chiococca,*
2. Nocturnal *Chiococca.*

Racemoſe and Nocturnal Chiococca deſcribed.

1. Racemoſe *Chiococca.* The ſtalks are woody, weak, and ſend forth ſeveral ſlender branches, which are unable to ſupport themſelves erect. The leaves are ſpear-ſhaped, oblong, pointed, ſmooth, and grow oppoſite to each other at the joints. The flowers are produced in bunches from the ends and on each ſide of the branches; they are of a yellowiſh colour, and are ſucceeded by berries, that are of a ſnow-white colour when ripe, which ſeldom happens in England. In America this plant is called the Snowberry tree, from the multitude of ſnow-white berries preſenting themſelves all over it when they are ripe.

2. Nocturnal *Chiococca.* This plant riſes with a ſhrubby, branching ſtalk to eight or ten feet high. The leaves are ſmooth, of an elegant green colour on their upper-ſide, greyiſh underneath,

and grow alternately. The flowers are produced from the wings of the leaves, at the upper parts of the branches, and are ſucceeded by roundiſh, compreſſed berries, each containing two ſeeds.

Culture. Theſe are propagated by planting the cuttings in the ſpring in pots filled with light, rich earth, and plunging them into a hotbed of tanner's bark. They muſt be duly watered, and kept cloſely ſhaded until they have taken root, and afterwards muſt have more air admitted to them by degrees; but they muſt not be wholly taken out of the bed until the autumn, when they muſt be removed into a very temperate bark ſtove, for their future reſidence.

They are alſo propagated by ſeeds, which muſt be ſown in the ſpring in pots filled with the like kind of rich earth; and they muſt be plunged into a hotbed of tanner's bark. When they come up, the uſual care incumbent on the gardener to allow tender ſeedlings, muſt be afforded them until they are about three or four inches high; when they muſt be potted ſeparately, and managed as the cuttings.

Titles. Racemosa. 1. The firſt ſpecies is titled, *Chiococca foliis oppoſitis*. In the former edition of the *Species Plantarum* it is termed, *Lonicera racemis lateralibus ſimplicibus laxis, floribus oppoſitis pendulis, geniculis compreſſis*. Brown calls it, *Chiococca ſarmentoſa, foliis myrtinis, ſpicis plurimis tenuiſſimis et terminalibus, et ex alis ſupremis*; Dillenius, *Periclymenum racemoſum, flore flaveſcente, fructu niveo*; and Sloane, *Jaſminum folio myrtino acuminato, flore albicante racemoſo*. It grows naturally in Jamaica and Barbadoes.

Nocturna. 2. The ſecond ſpecies is titled, *Chiococca foliis alternis*. It grows naturally in moſt of the warm parts of America.

Claſs and Order in the Linnæan Syſtem. The characters. *Chiococca* is of the Claſs and Order *Pentandria Monogynia*; and the characters are,

1. Calyx is a permanent perianthium ſituated above the germen, and indented in five parts at the top.

2. Corolla is one infundibuliforme petal. The tube is long, and patent. The limb is divided into five equal, acute, reflexed ſegments.

3. Stamina are five filiforme filaments the length of the corolla, having oblong, erect antheræ.

4. Pistillum conſiſts of a roundiſh, compreſſed germen ſituated below the calyx, a filiforme ſtyle the length of the ſtamina, and a ſimple, obtuſe ſtigma.

5. Pericarpium is a roundiſh, compreſſed berry, crowned by the calyx, and containing one cell.

6. Semina. The ſeeds are two, diſtant, roundiſh, and compreſſed.

CHAP. LVI.

CHRYSOBALANUS, The COCOA PLUM.

THERE is only one ſpecies of this genus, called the Cocoa Plum.

The plant deſcribed. The ſtalk is woody, brown, and often ſpotted with white, branching, and ten or twelve feet high. The leaves are roundiſh, entire, ſlightly emarginated, and grow alternately on the branches. The flowers are produced from the ends and ſides of the branches in panicles; they are ſmall, and of a white colour; and in America are ſucceeded by a very fine, ſweet-taſted Plum, of different colours, and as large as a Damaſcene.

Varieties. The varieties of this ſpecies are:

The White Cocoa Plum.
The Red.
The Brown.
The Yellow.
The Blue.
The Purple.
The Black.

Culture. They are all propagated by ſowing the ſeeds, which muſt be procured from the countries where they naturally grow, in pots filled with rich, freſh, light earth. The pots muſt be then plunged into a bark bed, and the mould muſt be kept moiſt with frequent ſprinklings of water. In about ſix weeks the plants may be expected to appear; and when they come up, they muſt have as much air as the weather will permit, to prevent their drawing weak, and changing colour. When they are about three or four inches high, they muſt be planted ſeparately in pots filled with the like kind of light, rich earth, muſt be again plunged into the hotbed, and watered and kept ſhaded until they have taken root. After that they muſt have a large ſhare of air, eſpecially in hot weather, and frequent waterings; and in the autumn muſt be removed into a good bark ſtove, where they muſt conſtantly remain, ſhifting them from time to time into larger pots, as often as they ſhall require it, affording them water ſparingly, keeping them warm in winter, and giving them frequent waterings and plenty of free air in hot weather in ſummer.

Titles. Icaco. This being the only ſpecies, it is named ſimply, *Chryſobalanus*. Plumier calls it, *Icaco fructu ex albo rufeſcente*; alſo, *Icaco fructu nigro*; alſo, *Icaco fructu purpureo*. Brown ſtiles it, *Chryſobalanus fruticoſus, foliis orbiculatis alternis, floribus laxè racemoſis*. It grows naturally in moſt parts of the Weſt Indies.

Claſs and Order in the Linnæan Syſtem. The characters. *Chryſobalanus* is of the Claſs and Order *Icoſandria Digynia*; and the characters are,

1. Calyx is a monophyllous, bell-ſhaped, withering perianthium, cut at the top into five ſpreading ſegments.

2. Corolla is five oblong, plane, patent petals inſerted in the calyx.

3. Stamina are many erect filaments, inſerted circularly in the calyx, having ſmall, didymous antheræ.

4. Pistillum conſiſts of an oval germen, a ſtyle the figure and length of the ſtamina, and an obtuſe ſtigma.

5. Pericarpium is a large, oval berry, containing one cell.

6. Semen. The ſeed is an oval, five-furrowed, rough nut, formed of five valves.

CHAP.

CHAP. LVII.

CHRYSOPHYLLUM, The STAR APPLE.

Species.

THIS genus at preſent conſiſts only of two ſpecies:

1. The Common Star Apple.
2. The Smooth-leaved Star-Apple.

Common and Smooth-leaved Star Apple deſcribed.

1. The Common Star-Apple. The trunk is thick, divided into many ſlender branches, and grows to be thirty or forty feet high. The leaves are oval, oblong, intire, ſtriated, ſmooth on their upper ſide, and downy and ſhining underneath, and grow alternately on footſtalks. The flowers are produced in cluſters from the ſides of the branches, and are ſucceeded by the fruit, which is pulpy, round, and as large as a moderate apple.

2. The Smooth-leaved Star Apple. The trunk is thick, and branching. The leaves differ from the former, in being ſmooth on both ſides. The flowers come out in cluſters from the ſides of the branches, and are ſucceeded by a large pulpy fruit, of a rough, aſtringent taſte.

Theſe trees are cut down, and uſed as timber in America; and the fruit is laid by to mellow, in the manner of medlars; whence they loſe their aſperity, and become fine eating.

Culture.

Theſe plants are propagated by ſeeds, which muſt be procured from the places where they naturally grow, be ſown in pots filled with rich garden mould, and then plunged into a hotbed of tanner's bark. If the ſeeds are good, in about ſix weeks the plants will come up; when they muſt have very ſlight, tho' frequent waterings, and as much free air as the weather will permit, to prevent their drawing up too weak. When the plants are about four inches high, they muſt be planted ſeparately in pots filled with the like kind of good garden mould; and in doing of this be careful to preſerve the fibres, and injure the roots as little as may be: Plunge them again into the bark bed, give them a pretty good watering to ſettle the mould to the roots, and repeat this as often as there ſhall be occaſion. Keep them ſhaded till you find them to be in a growing ſtate; then give them more air, according as the weather will permit, and in the autumn ſet them in a warm bark ſtove; where they muſt conſtantly remain, ſhifting them from time to time into larger pots, as often as they ſhall require it, giving them water ſparingly in winter, and frequent watering and plenty of freſh air in hot weather in ſummer.

Titles.

Cainito.

1. The firſt ſpecies is titled, *Chryſophyllum foliis parallelè ſtriatis, ſubtus tomentoſis nitidis.* In the *Hortus Cliffort.* it is termed, *Chryſophyllum foliis ovatis ſupernè glabris parallelè ſtriatis, ſubtus tomentoſo-nitidis.* Sloane calls it, *Anona foliis ſubtus ferrugineis, fructu rotundo majore lævi purpureo, ſemine nigro partim rugoſo, partim glabro*; Plumier, *Cainito folio ſubtus aureo, fructu maliformi*; alſo, *Cainito folio ſubtus aureo, fructu oliviformi*; and Lœfling, *Sideroxylon Pacurero.* It grows naturally in the Weſt Indies.

Glabrum.

2. The ſecond ſpecies is titled, *Chryſophyllum foliis utrinque glaberrimis.* It grows naturally in the warmeſt parts of America.

Claſs and Order in the Linnæan Syſtem.

Chryſophyllum is of the Claſs and Order *Pentandria Monogynia*; and the characters are,

The characters.

1. CALYX is a ſmall perianthium divided into five roundiſh, obtuſe, permanent parts.

2. COROLLA is one bell-ſhaped petal. The limb is cut into five roundiſh, ſpreading ſegments, which are ſhorter than the tube.

3. STAMINA are five awl-ſhaped, connivent filaments, having roundiſh, didymous, incumbent antheræ.

4. PISTILLUM conſiſts of a roundiſh germen, a very ſhort ſtyle, and an obtuſe, and nearly quinquifid ſtigma.

5. PERICARPIUM is a large, globular berry, containing ten cells.

6. SEMINA. The ſeeds are ſingle, oſſeous, gloſſy, and compreſſed.

CHAP. LVIII.

CINCHONA, The PERUVIAN BARK-TREE.

Species.

THERE are two ſpecies of this genus, called,

1. Peruvian Bark Tree.
2. *Cinchona* of the Caribbees.

Peruvian Bark Tree,

1. Peruvian Bark Tree. The trunk is woody, ſlender, branching, eighteen or twenty feet high, and covered with a thick, rough, reddiſh, or brown bark. The leaves are oval, oblong, pointed, entire, and grow oppoſite to each other on footſtalks. The flowers are produced in branched panicles from the wings of the leaves, near the upper parts of the branches; they are of a dull or whitiſh red colour on their outſide, but of a bright red within, and falling off are ſucceeded by roundiſh capſules, containing the ſeeds. The bark of this tree is noted for curing intermittent fevers.

and Caribbean Cinchona deſcribed.

2. Caribbean *Cinchona.* The ſtem is woody, and divides into ſeveral branches near the top. The leaves are oval, of a pale but beautiful green colour on their upper ſide, and grow on ſhort footſtalks. The flowers come out ſingly on footſtalks from the wings of the leaves, at the upper parts of the branches, and are followed by roundiſh capſules, containing the ſeeds.

Culture.

Theſe plants are propagated by ſeeds, which muſt be procured from abroad. They ſhould be ſown on a good hotbed in the ſpring; and when the plants are about four inches high, they muſt be potted ſeparately, and plunged into a good hotbed of tanner's bark. Here they muſt be ſhaded and duly watered until they have taken root, and afterwards muſt have plenty of air admitted to them by degrees. In ſummer the watering muſt be duly repeated, eſpecially in hot weather; and in autumn the plants muſt be taken into ſhelter. The firſt ſort is tolerably hardy, but the ſecond muſt have a pretty good ſtove, to have it in perfection in theſe parts. Its virtues were diſcovered by the Indians about the year 1500, but it was little uſed in Europe before the year 1649, and after that ſunk into diſrepute from the ill conſequences attending the imprudent uſe of it: However, it ſoon recovered its former credit, and is now not only known to be the moſt powerful febrifuge we have, but being a fine ſtomachic and good aſtringent, is uſed for internal and external diſorders, and is found ſerviceable for gangrenes, mortifications, &c. proceeding either from inward or outward cauſes.

Titles.

Officinalis.

1. The Peruvian Bark Tree is titled, *Cinchona paniculâ brachiatâ.* Ray calls it, *Arbor febrifuga Peruviana.* It grows naturally in the greateſt plenty on the mountains about Loxa in Peru.

2. The ſecond ſpecies is titled, *Cinchona pedunculis unifloris.* It is a native of the Caribbees.

Caribæa.

Claſs and Order in the Linnæan Syſtem. The characters.

Cinchona is of the Claſs and Order *Pentandria Monogynia*; and the characters are,

1. CALYX is a ſmall, monophyllous, permanent perianthium, ſituated above the germen, and divided into five parts.

2. COROLLA is one infundibuliforme petal. The tube is cylindrical and long. The limb is patulous, and divided into five acute parts.

3. STAMINA are five very ſmall filaments, having oblong antheræ within the mouth of the flower.

4. PISTILLUM conſiſts of a roundiſh germen ſituated below the calyx, a ſtyle the length of the corolla, and a thickiſh, oblong, ſimple ſtigma.

5. PERICARPIUM is a roundiſh capſule, crowned by the calyx, containing two cells, and openingin two directions from the baſe to the top.

6. SEMINA. The ſeeds are many, oblong, compreſſed, and bordered.

CHAP. LIX.

CISSAMPELOS.

Species.

OF this genus are the following ſpecies:

1. *Pareira*, or Umbilicated-leaved *Ciſſampelos.*

2. *Caapeba*, or Non-umbilicated-leaved *Ciſſampelos.*

Pareira, or Umbilicated-leaved Ciſſampelos deſcribed.

1. *Pareira*, or Umbilicated-leaved *Ciſſampelos.* The ſtalks are ſlender, and twiſt about any thing that is near them to the height of five or ſix feet. The leaves are round, heart-ſhaped, peltated, ſmooth on their upper-ſide, but hairy underneath, and grow on long, ſlender footſtalks. The flowers are produced in cluſters from the wings of the leaves; they are ſmall, and of a greeniſh colour; and the females are ſucceeded by round pulpy berries, which ſometimes ripen in England. The root of this plant is held diuretic.

Caapeba, or Non-Umbilicated-leaved Ciſſampelos deſcribed.

2. *Caapeba*, or Non-umbilicated-leaved *Ciſſampelos.* This plant has ſlender, trailing, ſoft, woody ſtalks, which wind about ſhrubs, trees, or any thing that is near them to about the ſame height with the former. The leaves are round, heart-ſhaped, entire, ſoft, woolly, and their footſtalks are inſerted at their baſe. The flowers are produced in bunches from the ſides of the ſtalks; and the females are ſucceeded by berries, which ſometimes ripen in England.

Culture.

Theſe plants are propagated by ſowing the ſeeds in the ſpring, in pots filled with light, rich earth, and plunging them up to the rims in a bark-bed. When the plants come up, they muſt be watered with great caution, being otherwiſe liable to be killed in that tender ſtate; and when they are fit to remove, they muſt be ſet ſeparately in pots filled with the like kind of freſh, rich earth They muſt be again plunged into the bark-bed, and watered and kept ſhaded until they have taken root. They muſt afterwards be allowed a greater ſhare of air, and frequent waterings, eſpecially in hot weather; and in the autumn muſt be taken into a good bark ſtove, where they muſt conſtantly remain, ſhifting them from time to time into pots filled with freſh mould, as often as you find it neceſſary, training them up to ſticks, or a trellis, provided for the purpoſe, and affording them all nice management due to tender plants.

Titles.

Pareira.

1. The firſt ſpecies is titled, *Ciſſampelos foliis peltatis cordatis emarginatis.* Lœfling calls it, *Ciſſampelos caule erecto ſuffruticoſo ſimpliciſſimo*; Ray, *Convolvulus Braſilianus, flore octopetalo, monococcos*; Brown, *Ciſſampelos ſcandens, foliis peltatis orbiculato-cordatis villoſis, floribus maſculis racemoſis: femineis ſpicatis: ſpicis folioſis*; and Plumier, *Clematis baccifera glabra & villoſa, rotundo & umbilicato folio*; alſo, *Caapeba folio orbiculari & umbilicato lævi*; alſo, *Caapeba folio orbiculari umbilicato et tomentoſo.* It grows naturally in Jamaica and moſt of the Weſt India Iſlands.

Caapeba.

2. The ſecond ſpecies is titled, *Ciſſampelos foliis baſi petiolatis integris.* Plumier calls it, *Caapeba folio orbiculari non umbilicato.* It is a native of the Weſt Indies.

Claſs and Order in the Linnæan Syſtem. The characters.

Ciſſampelos is of the Claſs and Order *Dioecia Monadelphia*; and the characters are,

I. Male.

1. CALYX. There is none.

2. COROLLA is four oval, plane, patent petals.

3. STAMINA are four very ſmall filaments joined in a body, having broad, flat antheræ.

II. Female.

1. CALYX. There is none.

2. COROLLA. There is none; but a nectarium on the ſide of the germen.

3. PISTILLUM conſiſts of a roundiſh germen, without any ſtyle, but three erect, acute ſtigmas.

4. PERICARPIUM is a globular berry containing one cell.

5. SEMEN. The ſeed is ſingle, rough and lightly compreſſed.

CHAP.

CHAP. LX.

CISSUS.

Species. OF this genus are the following ſpecies:

1. Heart leaved *Ciſſus.*
2. Sichyoide *Ciſſus.*
3. Acid *Ciſſus.*
4. Trifoliate *Ciſſus.*
5. Vine *Ciſſus.*

Heart-leaved, 1. Heart-leaved *Ciſſus.* The ſtalks are tender, and divide into ſeveral ſlender branches, which require ſupport. The leaves are heart-ſhaped, roundiſh, and undivided on their edges. The flowers are collected in roundiſh bunches, and are ſucceeded by round, umbilicated berries, which are of a moſt elegant bright-blue colour when ripe.

Sichyoide 2. Sichyoide *Ciſſus.* The ſtalks are tender, jointed, branching, weak, and climbing. The leaves are oval, oblong, naked, and ſerrated on their edges. The flowers are produced in bunches at the ends and ſides of the branches, and are ſucceeded by fine gloſſy berries, which are of a greeniſh-purple colour when ripe.

Acid, 3. Acid *Ciſſus.* The ſtalks are tender, jointed, branching, and climb up neighbouring trees or buſhes for ſupport. The leaves are trifoliate, oblong, cut on their edges, thick, ſucculent, and acid. The flowers are produced in roundiſh bunches from the top of the plant, and are ſucceeded by round, turbinated berries; which, when ripe, are of a beautiful ſhining black colour.

Trifoliate 4. Trifoliate *Ciſſus.* This is a climbing plant, which will ariſe, by the aſſiſtance of trees and buſhes, to upwards of twenty feet high. The leaves are compoſed of three oval, ſubdentated folioles, having a bordered footſtalk. The flowers are collected in ſmall bunches near the extremity of the branches, and are ſucceeded by round, umbilicated berries, ſhining, and very beautiful when ripe.

and Vine Ciſſus deſcribed. 5. Vine *Ciſſus.* The ſtalk of this plant is woody, and divides into ſeveral ſlender branches, which require ſupport. The leaves are heart-ſhaped, but divided into five lobes, and are downy on their under-ſide. The flowers come out in looſe bunches from the ſides of the branches, and are ſucceeded by beautiful ſhining berries, each containing one ſeed.

Culture. All theſe plants are propagated by ſeeds procured from abroad. The uſual way of ſowing them in pots, and plunging them into a hotbed of tanner's bark to bring them up, muſt be obſerved; as alſo the potting of them ſingly when they are fit to remove, and affording them water and ſhade until they have taken root. As they encreaſe in height, the glaſſes muſt be raiſed to give them room, and ſticks muſt be thruſt down by the ſide of each plant for its ſupport. When the roots have filled the pots, they muſt be ſhifted into others a ſize larger. When the plants get too high for the glaſſes of the hotbed, they muſt be taken into a good bark ſtove, obſerving to train them to proper ſticks, a trellis, or ſome proper frame, or they will entangle themſelves with the adjacent plants, and cauſe great diſorder in the ſtove.

Titles. 1. The firſt ſpecies is titled, *Ciſſus foliis cordatis integerrimis.* Plumier calls it, *Vitis folio ſubrotundo, uvâ corymboſâ cæruleâ.* It grows naturally in America. Cordifolia.

2. The ſecond ſpecies is titled, *Ciſſus foliis ovatis nudis ſetaceo-ſerratis.* Brown calls it, *Irſiola ſcandens, foliis oblongo-ovatis ad margines denticulato-ſetaceis*; and Sloane, *Bryonia alba geniculata, violæ foliis, baccis e viridi purpuraſcentibus.* It grows naturally in Jamaica. Sicyoides.

3. The third ſpecies is titled, *Ciſſus foliis ternatis oblongis carnoſis inciſis.* In the former edition of the *Species Plantarum* it is termed, *Sicyos trifoliata.* Brown calls it, *Irſiola triphylla ſcandens & claviculata, foliis craſſis ſerratis*; Sloane, *Bryonia alba triphylla geniculata, foliis craſſis acidis*; Plukenet, *Bryonioides trifoliatum Indicum foliis ſucculentis craſſis & crenatis*; and Plumier, *Vitis trifoliata minor corymboſa, acinis nigrioribus turbinatis.* It grows naturally in America. Acida.

4. The fourth ſpecies is titled, *Ciſſus foliis ternatis ſubrotundis ſubdentatis.* Brown calls it, *Irſiola triphylla ſcandens, foliis ovatis ſubdentatis, petiolo communi marginato, calycibus majoribus*; and Sloane, *Bryonia alba triphylla maxima.* It grows naturally in Jamaica. Trifoliata.

5. The fifth ſpecies is titled, *Ciſſus foliis cordatis ſubquinquelobis tomentoſis.* In the *Flora Zeylanica* it is termed ſimply, *Ciſſus*; and in the *Hortus Malabricus*, *Schunambu-valli.* Plukenet calls it, *Arbuſcula baccifera circumplicatilis, vitigineo folio ſubtus lanato, fructu racemoſo fervidiore odoro*; and Rumphius, *Funis crepitans.* It grows naturally in India. Vitiginea.

Claſs and Order in the Linnæan Syſtem. *Ciſſus* is of the Claſs and Order *Tetrandria Monogynia*; and the characters are,

The characters. 1. CALYX. The involucrum is compoſed of many ſmall leaves.

The perianthium is monophyllous, plane, ſomewhat four-cornered, and ſhort.

2. COROLLA conſiſts of four concave petals.

The nectarium ſurrounds the germen.

3. STAMINA are four filaments the length of the corolla, and inſerted into the nectarium, having roundiſh antheræ.

4. PISTILLUM conſiſts of a roundiſh, obtuſe, tetragonal, retuſed germen, a filiforme ſtyle the length of the ſtamina, and a ſimple, acute ſtigma.

5. PERICARPIUM is a round, gloſſy, umbilicated berry.

6. SEMEN. The ſeed is roundiſh.

CHAP. LXI.

CITHAREXYLON, FIDDLE-WOOD.

THIS genus at preſent conſiſts only of two ſpecies:

Species.

1. Cinereous *Citharexylon.*
2. Caudated *Citharexylon.*

Cinereous 1. Cinereous *Citharexylon.* The ſtem is robuſt, upright, branching, and covered with a cinereous bark. The leaves reſemble thoſe of the Bay-tree, are oblong, oval, of a firm ſubſtance, grow oppoſite to each other, and continue all the year. The flowers come out in looſe ſpikes from the ends and ſides of the branches; they are of a white colour, and are ſucceeded by roundiſh, pulpy berries, which do not ripen in England.

and Caudated Citharexylon deſcribed. 2. Caudated *Citharexylon.* The ſtem is robuſt, upright, and divided into many taper branches near the top. The leaves are oboval, and grow oppoſite by pairs on the branches. The flowers are produced from the ends of the branches in long ſpikes; they are of a white colour, but are rarely ſucceeded by berries in England.

Culture. Theſe plants are propagated from ſeeds, which muſt be procured from the countries where they naturally grow; ſowing them in pots filled with light, rich earth, and plunging them up to the rims in a bark bed. In about ſix weeks, if the ſeeds are good, the plants will come up, when you ſhould be cautious of over-watering them to endanger their rotting; and when they are about three or four inches high, they ſhould be potted ſeparately, and plunged again into the bark bed: Watering and ſhade muſt be allowed them at firſt; and when they have taken root, they ſhould have a large ſhare of air, eſpecially if the weather is hot. In the autumn they muſt be taken into a temperate bark ſtove, where they ſhould remain until they become ſtrong plants; and then they will live and flouriſh very well in the dry ſtove, and may afterwards be ſet abroad for about two months in the height of ſummer.

They are alſo propagated by cuttings, which ſhould be ſet in pots filled with the like kind of light, rich earth, be plunged into a bark bed, and watered and kept ſhaded until they have taken root. Afterwards they muſt have a large ſhare of air granted them; and their future management muſt be ſimilar to that of the ſeedlings.

Titles. Cinereum. 1. The firſt ſpecies is titled, *Citharexylon ramis teretibus, calycibus dentatis.* Father Plumier calls it, *Jaſminum arboreſcens racemoſum foliis lauri*; Brown, *Citharexylon fruticoſum, cortice cinereo, foliis oblongo-ovatis oppoſitis, petiolis marginatis pedatis, floribus ſpicatis*; and Plukenet, *Citharexylon arbor laurifolia Americana, foliorum venis latè candicantibus.* It grows naturally in Jamaica, and moſt Iſlands of the Weſt Indies.

Caudatum. 2. The ſecond ſpecies is titled, *Citharexylon ramis teretibus, calycibus truncatis.* Brown calls it, *Citharexylon fruticoſum, foliis ſubellipticis, petiolis pedatis, calycibus truncatis, ſpicis terminalibus longioribus.* It grows naturally in Jamaica.

Claſs and Order in the Linnæan Syſtem. The characters. *Citharexylon* is of the Claſs and Order *Didynamia Angioſpermia*; and the characters are,

1. Calyx is a monophyllous, bell-ſhaped, permanent perianthium, divided at the top into five acute ſegments.
2. Corolla is one infundibuliforme, rotated petal. The tube is twice as long as the perianthium, and thickeſt upwards. The limb is bilabiated, and divided into five oblong, plane, truncated, ſpreading ſegments.
3. Stamina are four filiforme filaments, together with the rudiment of a fifth in the middle of the tube, of which two are a little longer than the others, having oblong, erect, didymous antheræ.
4. Pistillum conſiſts of a roundiſh germen, a filiforme ſtyle the length of the ſtamina, and an obtuſe, capitated ſtigma.
5. Pericarpium is a roundiſh, ſlightly compreſſed berry, containing one cell.
6. Semina. The ſeeds are two, oval, bilocular, convex on one ſide, concave on the other, and emarginated at the top.

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CHAP. LXII.

CLEMATIS, VIRGIN'S BOWER.

THERE is a tender ſpecies of this genus called, The Jamaica Virgin's Bower, or Dioiceous *Clematis.*

The plant deſcribed. The ſtalks are weak, ſlender, branching, and if ſupported will riſe to twelve or fourteen feet high. The leaves are large, of a bright green colour, and each is compoſed of three oval, veined folioles. The flowers are dioiceous, white, and of very little figure; they grow from the ſides of the branches in pretty long footſtalks, and there will often be a ſucceſſion of them for many months.

Culture. This plant is propagated by ſeeds, which muſt be procured from the places where it naturally grows. They ſhould be ſown in pots filled with light earth, and plunged into a hotbed. When the plants are grown to about four inches high, each ſhould have its own ſeparate pot, and they ſhould be again plunged into a ſecond hotbed. As they advance in height, ſticks muſt be thruſt down by the ſide of each plant for its ſupport; and when the heat of the bed is abated, they may be removed into the ſtove; obſerving always, from the firſt appearance of the plant until its final diſſolution, to afford it as much air as the weather will permit, and not neglect to give it a due ſhare of water.

It may alſo be raiſed by layers, in the ſame manner as the common ſorts treated of among the Climbers.

There are ſeveral varieties of this ſpecies, of very inconſiderable difference, all of which may be raiſed in the ſame manner. Their ſtation ſhould be in the moſt temperate ſtove; and in the hotteſt ſummer months they may be ſet abroad with other tender plants.

Titles. Dioica.

This ſpecies is titled, *Clematis foliis ternatis integerrimis, floribus dioicis.* Brown calls it, *Clematis ſcandens, foliis quinquenerviis ovatis nitidis pinnato-ternatis*; and Sloane, *Clematis prima, ſeu ſylveſtris latifolia, foliis ternis.* It grows naturally in Jamaica, and other warm parts of America.

CHAP. LXIII.

CLEOME.

THERE is one ſpecies of this genus of a ligneous nature, called, The Shrubby Indian *Cleome.*

The plant deſcribed.

The ſtalk is round, taper, woody, branching, and grows to about a yard in height. The leaves are ſimple, oval, oblong, ſmooth, and grow alternately on footſtalks on the branches. The flowers are gynandrous, and diſpoſed in looſe ſpikes at the ends of the branches; they come out in July and Auguſt, and are ſucceeded by oblong pods containing the ſeeds.

Culture.

This plant is propagated by ſowing the ſeeds on a hotbed in the ſpring. When the plants are four inches high, they ſhould be carefully taken up with a ball of earth to each root, and planted ſingly in ſmall pots. The pots ſhould be then plunged up to the rims in a ſecond hotbed; and when the heat of this is abated, they ſhould be ſhifted into larger pots, and have the advantage of a third hotbed: From this they may be removed into the ſtove, where they will flower and perfect their ſeeds.

All along, from the time of their firſt coming up in the hotbed, a due admiſſion of air on all favourable opportunities muſt be granted them, and moderate watering muſt not be with-held. Their ſtation ought to be in the cooleſt ſtove; for only a ſmall degree of additional heat above that of a good Green-houſe, is what they require.

Fruticosa. Titles.

This ſpecies is titled, *Cleome floribus gynandris tetrandris, foliis ſimplicibus, caule fruticoſo.* It grows naturally in India.

CHAP. LXIV.

CLUSIA, The BALSAM TREE.

Species.

OF this genus are,

1. Common Yellow Balſam Tree.
2. Venoſe Balſam-Tree.
3. White-flowered Balſam Tree.

Common Yellow,

1. Common Yellow Balſam Tree ſends out many branches from the ſides, and grows to be twenty feet high. The leaves are round, thick, ſucculent, gloſſy, and grow oppoſite by pairs. The flowers come out ſingly from the upper parts of the branches, and in America are ſucceeded by a large oval fruit, as big as an apple. The turpentine of this tree is uſed in medicine; and it is ſaid that the wild hogs in India, on being wounded, repair to theſe trees, rub their wounded parts againſt them, and, by thus anointing them with the turpentine, effect a cure. Hence the name Hog Gum is given to this turpentine in the Weſt Indies.

Venoſe,

2. Venoſe Balſam Tree. This ſpecies grows to ſixteen or eighteen feet high. The leaves are large, oval, ſpear-ſhaped, pointed, very much ribbed, veined underneath, and grow alternately on the branches. The flowers are produced from the ends of the branches in looſe ſpikes; they are of a roſe colour, and are ſucceeded by oval fruit, of a yellow colour when ripe.

and White-flowered Balſam Tree deſcribed.

3. White-flowered Balſam Tree. This ſpecies grows to eighteen or twenty feet high. The leaves are roundiſh, thick, fleſhy, entire, and grow oppoſite by pairs. The flowers come out on footſtalks from the wings of the leaves; they are of a white colour, and the fruit is of a beautiful ſcarlet colour.

Culture.

Theſe plants are propagated by cuttings, which may be planted, in any of the ſummer months, in pots filled with light, ſandy earth, and plunged into a hotbed of tanner's bark. The cuttings ſhould be laid by a few days for the wounded parts to heal, and when they are planted, muſt have a ſlight watering to ſettle the mould to them; and this watering may be repeated at intervals, but it muſt be in ſmall quantities at a time. When they are in a good growing ſtate, they muſt be hardened as much as may be before winter; and in the autumn ſhould be taken into a good bark ſtove, and meet with treatment ſimilar to other tender plants.

They are alſo raiſed from ſeeds, when they can be procured from the countries where they naturally grow. Theſe muſt be ſown in pots filled with light earth, plunged into a bark-bed, and when the plants are fit to remove, muſt be potted ſeparately, and treated like tender plants.

Titles. Flava.

1. The firſt ſpecies is titled, *Cluſia foliis aveniis, corollis tetrapetalis.* Brown calls it, *Cluſia arborea, foliis craſſis nitidis obovato-ſubrotundis, floribus ſolitariis*; and Sloane, *Terebinthus folio ſingulari non alato rotundo ſucculento, flore tetrapetalo pallidè luteo, fructu majore monopyreno.* It grows naturally in Jamaica.

Venosa.

2. The ſecond ſpecies is titled, *Cluſia foliis venoſis.* Plumier calls it, *Cluſia, flore roſeo, minor, fructu flaveſcente.* It grows naturally in America.

Alba

3. The third ſpecies is titled, *Cluſia foliis aveniis, corollis pentapetalis.* Plumier calls it,

Cluſia flore albo, fructu coccineo. It grows naturally in America.

Claſs and Order in the Linnæan Syſtem. The characters.

Cluſia is of the Claſs and Order *Polygamia Monoecia*; and the characters are,

1. Calyx is an imbricated, permanent perianthium.

2. Corolla is four, five, or ſix large, roundiſh, concave, patent petals.

3. Stamina are ſeveral ſimple filaments ſhorter than the corolla, having ſimple antheræ.

4. Piſtillum conſiſts of an oval, oblong germen, without any ſtyle, but a ſtellated, plane, obtuſe, permanent ſtigma.

5. Pericarpium is an oval, ſulcated capſule, containing many cells, and opening in a radiated manner with the like number of valves.

6. Semina. The ſeeds are numerous, oval, ſurrounded with pulp, and affixed to a columnar, angular receptacle.

CHAP. LXV.

CLUTIA.

THIS genus has already afforded three ſpecies for the Green-houſe; two others remain for the Stove, called,

Species.

1. Retuſed *Clutia.*
2. *Eluteria.*

Retuſed Clutia,

1. Retuſed *Clutia.* The ſtem is woody, branching, and ſix or eight feet high. The leaves are oval, retuſed, and grow alternately on the branches. The flowers come out from the wings of the leaves in looſe bunches; they are of a greeniſh-white colour, and appear in July and Auguſt.

and Eluteria deſcribed.

2. *Eluteria.* The ſtem is woody, hairy, erect, branching, and five or ſix feet high. The leaves are cordated, ſpear-ſhaped, pointed, and grow alternately. The flowers come out in ſpikes from the ends of the branches, and appear about the ſame time with the former.

Variety.

There is a variety of this ſpecies that grows to be a conſiderable tree, ſending forth branches near the top, which form a large, ſpreading head.

Culture.

Theſe are propagated by ſeeds, which muſt be procured from the countries where they naturally grow. They muſt be ſown in pots filled with light, ſandy earth, and plunged into a hotbed of tanner's bark. When the plants come up, they muſt have but very little water, or it will effectually kill them in that tender ſtate; and they muſt have as much free air as the weather will permit. When the plants are fit to remove, they muſt be ſet ſeparately in pots filled with the like kind of light, ſandy earth, muſt be again plunged into the hotbed, and watered and ſhaded until they have taken root. They muſt be hardened by degrees to the open air, and in the autumn muſt be taken into the cooleſt ſtove, placing them in the back part behind the other plants; for they are moderately hardy, and require only a very ſmall degree of artificial heat in winter to continue them in a flouriſhing ſtate. In ſummer they may be ſet abroad for about two months, provided ſome ſhelter be placed over them to ſcreen them from the heavy rains, ſhould ſuch happen to fall.

They may alſo be encreaſed by cuttings. Theſe may be planted in any of the ſummer months; but it ought not to be deferred longer than July, that there may be time to harden the plants before winter. They muſt be ſet in pots filled with light, ſandy earth, and plunged into a hotbed of tanner's bark: They muſt be ſhaded at firſt, but muſt have water in very ſmall quantities, and no oftener than as you perceive the mould in the pots to become too dry. When you perceive them in a growing ſtate, the glaſſes muſt be raiſed to admit the air; the mats that had been employed to form the ſhade muſt be diſuſed; and the plants muſt be hardened by degrees to the open air, and afterwards treated like the ſeedling plants.

Titles. Retusa. Eluteria.

1. The firſt ſpecies is titled, *Clutia foliis ovalibus retuſis.* It grows naturally in India.

2. The ſecond ſpecies is titled, *Clutia foliis cordato-lanceolatis.* In the *Hortus Cliffort.* it is termed, *Eluteria.* Brown calls it, *Croton fruticuloſum erectum ſubvilloſum, foliis cordatis acuminatis, ſpicis terminalibus.*; and Plukenet, *Ricinus dulcis arboreſcens Americanus, populaneâ fronde argenteâ.* It grows naturally both in the Eaſt and Weſt Indies.

CHAP. LXVI.

COCCOLOBA.

OF this genus are,

Species.

1. Grape-bearing *Coccoloba*, or Sea-ſide Grape.
2. Spotted *Coccoloba.*
3. Excoriated *Coccoloba.*

Grape-bearing,

1. Grape-bearing *Coccoloba*, or Sea-ſide Grape. The ſtalks are woody, ten or twelve feet high, and covered with a ſmooth, brown bark. The leaves are heart-ſhaped, and almoſt round, of a thickiſh ſubſtance, a gloſſy green colour, and grow alternately on ſhort footſtalks. The flowers come out from the wings of the leaves in long, ſlender bunches; they are of a white colour, and are ſucceeded by purpliſh reddiſh berries, as large as grapes, of an agreeable aſtringent flavour.

and Spotted Coccoloba deſcribed.

2. Spotted *Coccoloba.* The ſtalks are ſlender, ligneous, five or ſix feet high, and covered with a brown bark. The leaves are ſpear-ſhaped, oval, much veined, and of a light-green colour. The flowers are produced in ſlender bunches from the ends of the branches, and are

ſucceeded by ſmall, ſpotted, purpliſh berries, of an agreeable aromatic flavour.

Exco-riated Cocco-loba deſcribed.

3. Excoriated *Coccoloba.* The ſtem is woody, very robuſt, grows to near twenty feet high, and is covered with a ſmooth, grey bark. The leaves are very large, oval, pointed, veined, of a thickiſh ſubſtance, and a gloſſy green colour on their upper ſide, but paler underneath. The flowers come out from the ends of the branches in long, ſlender bunches; they are of a white colour, and are ſucceeded by ſmall, roundiſh, purpliſh fruit, of inferior flavour to the firſt ſort.

Culture.

Theſe are raiſed by ſowing the ſeeds in pots filled with light, rich earth, and then plunging them up to the rims in a bark-bed. When the plants are fit to remove, each muſt have a ſeparate pot, be again plunged into the bark bed, and ſhaded and watered until they have taken root. After that they muſt have more air; and in the autumn they muſt be taken into the warmeſt ſtove, plunging them up to the rims in the bark-bed there. In winter they muſt have but little water; but in hot weather in ſummer, they ſhould be watered two or three times a week. The chief beauty theſe plants exhibit is from their leaves, which are large, of a fine green colour, and continue all the year; but they rarely flower, and much ſeldomer produce ripe ſeeds in England; on which account the ſeeds for raiſing them muſt be procured from the places where they naturally grow.

Titles.

Uvifera.

1. The firſt ſpecies is titled, *Coccoloba foliis cordato-ſubrotundis nitidis.* In the former edition of the *Species Plantarum* it is termed, *Polygonum foliis ſubrotundis, caule arboreo, fructibus baccatis*; and in the *Hortus Cliffort. Uvifera foliis ſubrotundis ampliſſimis.* Plukenet calls it, *Uvifera litorea, foliis amplioribus ferè orbiculatis craſſis, Americana*; Plumier, *Guajabara racemoſa, foliis coriaceis ſubrotundis*; Caſpar Bauhine, *Populus Americana rotundifolia*; and Sloane, *Prunus maritima racemoſa, folio ſubrotundo glabro, fructu minore purpureo.* It grows naturally on the ſandy ſhores of moſt of the Weſt India Iſlands.

Punctata.

2. The ſecond ſpecies is titled, *Coccoloba foliis lanceolatis ovatis.* Brown calls it, *Coccolobis foliis oblongo-ovatis venoſis, uvis minoribus punctatis*; and Plukenet, *Uvifera arbor Americana, fructu aromatico punctato.* It grows naturally in America.

Excoriata.

3. The third ſpecies is titled, *Coccoloba foliis ovatis, ramis quaſi excorticatis.* Brown calls it, *Coccolobis montana major arborea, foliis ſubrotundis, cortice lævi*; Plumier, *Guajabara alia racemoſa, foliis oblongis*; and Plukenet, *Arbor Indica glycyrrhizæ foliis ſubrotundis, floribus in prælongam ſpicam adactis.* It grows naturally in America.

Claſs and Order in the Linnæan Syſtem. The characters.

Coccoloba is of the Claſs and Order *Octandria Trigynia*; and the characters are,

1. Calyx is a monophyllous perianthium, divided into five oblong, obtuſe, concave, patent, coloured, permanent ſegments.

2. Corolla. There is none.

3. Stamina are eight awl-ſhaped filaments ſhorter than the calyx, having roundiſh, didymous antheræ.

4. Pistillum conſiſts of an oval, three-cornered germen, and three ſhort, filiforme, patent ſtyles, with ſimple ſtigmas.

5. Pericarpium. There is none. The calyx cloſes, thickens, aſſumes the ſhape of a berry, and encloſes the ſeed.

6. Semen. The ſeed is an oval, acute nut, containing one cell.

CHAP. LXVII.

COCOS, The COCOA-NUT TREE.

THIS genus conſiſts of one ſpecies, called, The Cocoa-nut Tree.

The plant deſcribed.

The trunk is thick, and in India arrives to a great height. The leaves are pinnated; and the folioles are very long, ſword-ſhaped, have hairy edges, and fold backward; they are of a light green colour, twelve or fourteen feet long, and were formerly called branches, the tree having no other. The flowers are produced in long bunches from among the leaves; and the females are ſucceeded by thoſe very large, oval nuts called Cocoa-nuts.

Uſeful properties of the plant.

This plant is cultivated in great plenty both in the Eaſt and Weſt Indies, on account of its various uſes in life. The leaves are uſed as thatch to cover their houſes; the bark is made into cordage; the ſhell into drinking cups; the outward part is replete with a milky juice, which is a cooling liquor; and the kernel is an agreeable, wholeſome, hearty food.

Culture.

It is raiſed by planting the nuts, which muſt be brought over in ſand, in pots filled with the richeſt earth. The Auricula compoſt is very ſuitable to theſe trees; and when they are planted, they muſt be directly plunged into a hotbed of tanner's bark. The mould muſt be kept moiſt by frequent ſprinklings of water, and in about ſix or eight weeks the plants will appear. When they are three or four inches high, they muſt be potted ſeparately, be well watered, plunged again into the hotbed, and kept ſhaded until they have taken root. Here they may remain with conſtant watering, and much air in hot weather, until the autumn, when they ſhould be taken into the bark ſtove, and there conſtantly reſide: They ſhould be every year ſhifted into larger pots filled with the like kind of rich earth; and in doing of this, the ſtricteſt caution muſt be uſed not to break or bruiſe the fibres, which would be very injurious to the plants. Every winter, they muſt have frequent waterings, tho' in ſmall quantity at a time; and in ſummer the repetition of watering, as well as giving them freſh air, muſt be duly obſerved; for the tree grows naturally in marſhy places in India, and thrives beſt in moiſture and the ſhade.

Titles.

Nucifera.

The Cocoa-nut Tree is titled, *Cocos frondibus pinnatis: foliolis replicatis.* In the *Hortus Cliffort.* it is termed, *Coccus frondibus pinnatis: foliolis enſiformibus margine villoſis.* Caſpar Bauhine calls it, *Palma Indica coccifera anguloſa*; and John Bauhine, *Palma Indica nucifera.* It grows naturally in India.

Claſs and Order in the Linnæan Syſtem. The characters.

Cocos is of the Claſs and Order *Monoecia Hexandria*; and the characters are,

I. Male flowers in the ſame bunch with the females.

1. Calyx. The general ſpatha is compoſed of one valve. The ſpadix is branching.

The perianthium conſiſts of three ſmall, coloured, concave, and nearly triquetrous leaves.

2. Corolla is three oval, acute, patulous petals.

3. Stamina are ſix ſimple filaments the length of the corolla, having arrow-ſhaped antheræ.

4. Pistillum conſiſts of ſcarcely a viſible germen, and three ſhort ſtyles, with obſolete ſtigmas.

5. Pericarpium is abortient.

II. Females on the ſame ſpadix with the Males.

1. Calyx. The ſpatha and ſpadix are the ſame as the hermaphrodites.

The perianthium is compoſed of three roundiſh, concave, connivent, coloured, permanent leaves.

2. Corolla is three permanent petals, ſimilar to the calyx, but ſomewhat larger.

3. Pistillum conſiſts of an oval germen, and never a ſtyle, but a trilobed ſtigma.

4. Pericarpium is a very large, roundiſh, coriaceous, obſoletely three-cornered drupe.

5. Semen. The ſeed is a very large, nearly oval, obſoletely three-cornered, acuminated nut, formed of three valves, containing three cells, and has three holes at the baſe.

CHAP. LXVIII.

COFFEA, The COFFEE TREE.

Species.

There are two diſtinct ſpecies of this genus, viz.

1. Arabian Coffee Tree.
2. Weſt Indian Coffee Tree.

Arabian,

1. Arabian Coffee Tree. The ſtem is round, upright, twelve or fourteen feet high, covered with a light-brown bark, and ſends out many flexible branches oppoſite by pairs, which grow horizontally from the bottom; the loweſt branches being the longeſt, and diminiſhing gradually in length to the top. The leaves are ſhaped like thoſe of the Bay-tree, are oblong, pointed, waved on their edges, grow oppoſite by pairs, are of a ſhining green colour, and continue all the year. The flowers are produced in cluſters from the ſides of the branches, ſitting cloſe; they are of a pure white colour, and of great fragrance, and are ſucceeded by oval, roundiſh berries, each containing two ſeeds, which are the beſt ſort of Coffee that is imported from abroad.

and Weſt Indian Coffee Tree deſcribed.

2. Weſt Indian Coffee Tree. The ſtem is round, twelve or fourteen feet high, and ſends out branches by pairs, which grow horizontally, and form a pyramidical head. The leaves of this ſpecies are ſomewhat like thoſe of the Bay-tree, oblong, oval, gloſſy on their upper-ſide, and grow oppoſite to each other. The flowers are produced in panicles; and each of them is cut at the brim into four ſegments only, whereas thoſe of the former ſpecies are cut into five; they are equally white, and of the ſame heightened fragrance; and they are ſucceeded by roundiſh berries, each containing one ſeed only, which affords a Coffee of inferior quality to the former.

Culture.

Theſe plants are propagated by ſowing the ſeeds in pots filled with very rich, but looſe earth, and plunging them into a hotbed of tanner's bark; a very ſlight watering muſt be afforded the mould in the pots at proper intervals, to keep it in ſome degree moiſt, and in a month or five weeks the plants will come up. When the plants are about three or four inches high, they muſt be potted ſeparately, and plunged into the bark-bed as before. A ſlight watering muſt be then afforded them, to ſettle the mould to the roots: This muſt be repeated as often as there ſhall be occaſion, and they muſt be ſhaded from the heat of the ſun. When they are in a growing ſtate, more air muſt be allowed them, which muſt be encreaſed in proportion to the heat of the ſeaſon; and watering in ſmall quantities at a time muſt be regularly granted them. Early in the autumn they muſt be taken into a good bark ſtove, where they muſt conſtantly remain, be kept very warm in winters, allowing them very little water, but granting them a due admiſſion of air, and frequent waterings in hot weather in ſummer. They muſt from time to time be ſhifted into larger pots, as often as they ſhall require it; and if they have the regular heat of a good ſtove, have ſufficient air, and proper waterings, (which ought always to be rather ſparingly even in hot weather) they will arrive regularly to perfection, be ſubject to no attacks from inſects, which often infect unhealthy plants, will flower in our ſtoves, and produce ripe Coffee-berries. The berries of theſe trees are firſt green, then red, but when ripe are of a black colour; they remain a long time in their red ſtate, which is generally in winter, and during that time make a beautiful appearance in our ſtoves. Coffee-berries ſoon loſe their vegetative qualities; ſo that whoever is deſirous of raiſing theſe plants, muſt be careful to procure freſh ſeeds.

Coffee-trees are alſo increaſed by layers and cuttings. Theſe ſhould be planted in pots filled with the like kind of rich earth, be plunged into a good bark-bed, and watered and ſhaded until they have taken root. After that they muſt have more air, be taken into the warmeſt bark ſtove, and be managed as the ſeedlings. Plants raiſed this way are of inferior beauty to thoſe raiſed from ſeeds; ſo that whenever good ſeeds can be obtained, this method is not worth putting into practice.

In the Weſt Indies large plantations of theſe trees are made, in order to raiſe Coffee for ſale; and ſuch is the progreſs they make in thoſe countries, that in about eighteen months from the berry, they will afford ripe fruit for gathering.

1. The Arabian Coffee Tree is titled, *Coffea* Arabica
floribus quinquefidis diſpermis. In the *Hortus Cliff.*
it

Titles. it is termed ſimply, *Coffea.* Caſpar Bauhine calls it, *Euonimo ſimilis Ægyptica, fructu baccis lauri ſimili*; Tilli, *Jaſminum Arabicum, caſtaneæ folio, flore albo odoratiſſimo*; Juſſieu, *Jaſminum Arabicum, lauri folio, cujus ſemen apud nos Coffee dicitur.* It grows naturally in Arabia Felix and in Æthiopia.

Occi-dentalis 2. The Weſt India Coffee Tree is named, *Coffea floribus quadrifidis, baccis monoſpermis.* Brown calls it, *Pavetta foliis oblongo-ovatis oppoſitis, ſtipulis ſetaceis*; and Plumier, *Jaſminum arboreſcens, lauri foliis, flore albo odoratiſſimo.* It grows naturally in the warmer parts of America.

Claſs and Order in the Linnæan Syſtem. The characters. *Coffea* is of the Claſs and Order *Pentandria Monogynia*; and the characters are,

1. Calyx is a ſmall perianthium, ſituated above the germen, and indented in four parts.

2. Corolla is one funnel-ſhaped petal. The tube is cylindrical, ſlender, and much longer than the calyx. The limb is plane, longer than the calyx, and divided into five ſegments, which are ſpear-ſhaped, and have their edges turned backward.

3. Stamina are five awl-ſhaped filaments placed on the tube of the corolla, having linear, incumbent antheræ, which are as long as the filaments.

4. Pistillum conſiſts of a roundiſh germen ſituated below the calyx; a ſimple ſtyle the length of the corolla; and two awl-ſhaped, thickiſh, reflexed ſtigmas.

5. Pericarpium is a roundiſh, umbilicated berry.

6. Semina. The ſeeds are two, elliptical, hemiſphærical, gibbous on one ſide, and plane on the other.

CHAP. LXIX.

COLUMNEA.

THIS genus at preſent conſiſts only of one ſpecies, called, *Columnea.*

The plant deſcribed. The ſtalks are climbing, hairy, and lay hold of neighbouring trees for their ſupport. The leaves are oval, hairy, ſerrated, and grow on footſtalks. The flowers are produced from the wings of the leaves; they are of a beautiful ſcarlet colour, and in America are ſucceeded by oval, white-coloured fruit.

Varieties. There is a variety of this plant with purple flowers, and another with yellow flowers and white fruit.

Culture. Theſe plants are raiſed from ſeeds, which muſt be procured from the countries where the plants naturally grow. They muſt be preſerved in ſand, the better to retain their vegetative quality; and muſt be ſown in pots filled with light, ſandy earth, and plunged into a hotbed of tanner's bark. The ſeeds are ſmall; ſo that if they are not thinly ſown, the plants will come up too cloſe; and when this happens, the weakeſt ſhould be drawn out, leaving the others in the pots until they are about four inches long: Then they muſt be ſhaken out of the pots with the mould, that it may ſeparate from the roots freely, and injure the fibres as little as may be. They muſt be next planted ſeparately in pots filled with the like kind of light earth, muſt have ſlight waterings, and be plunged again into the bark bed. They muſt be ſhaded until they have taken root, and afterwards muſt have more air, according to the heat of the ſeaſon. As the plants encreaſe in height, they muſt have ſticks thruſt by them for their ſupport, and muſt alſo be ſhifted into larger pots; obſerving to diſturb the mould about the roots as little as may be. Early in the autumn they muſt be taken into a good bark ſtove, and there meet with the treatment due to tender plants.

Titles. Scandens There being no other ſpecies of this genus, it is named ſimply, *Columnea.* Plumier calls it, *Columnea ſcandens, Phœniceo flore, fructu albo*; alſo, *Columnea ſcandens, flore luteſcente, fructu albo*; Brown, *Achimenes major herbacea hirſuta obliquè aſſurgens, foliis ovatis crenatis oppoſitis: alternis minoribus, floribus geminatis ad alas alternas*; and Sloane, *Rapunculus fruticoſus, foliis oblongis integris villoſis ex adverſo ſitis, flore purpureo villoſo.* It grows naturally in the woods of Martinico.

Claſs and Order in the Linnæan Syſtem. The characters. *Columnea* is of the Claſs and Order *Didynamia Angioſpermia*; and the characters are,

1. Calyx is a monophyllous perianthium, a little ſwelling at the baſe, and divided at the top into five erect, ſpear-ſhaped, permanent ſegments.

2. Corolla is one ringent, hairy petal. The tube is long. The limb is bilabiated. The upper lip is erect, and indented at the top. The lower lip is divided into three ſpear-ſhaped ſegments, the middle one being much longer than the others.

3. Stamina are four filaments, of which two are longer than the others, hid under the upper lip, having ſimple antheræ.

4. Pistillum conſiſts of an oval germen, a filiforme ſtyle the length of the upper lip, and a bifid, obtuſe ſtigma.

5. Pericarpium is an oval capſule, containing two cells.

6. Semina. The ſeeds are numerous, and ſmall.

CHAP. LXX.

COMMELINA.

Species. OF this genus are,

1. African *Commelina.*
2. Tuberoſe *Commelina.*
3. Graſs-leaved *Zanonia.*
4. Malabrian *Ephemerum.*
5. Criſted *Commelina.*

African 1. African *Commelina.* The ſtalks are ſmooth, jointed, three feet long, lie on the ground, and ſtrike root at the joints. The leaves are oval, ſpear-ſhaped, pointed, ſmooth, and embrace the ſtalk with their baſe. The flowers come out from the ſides of the ſtalks, iſſuing from a large, heart-ſhaped, permanent ſpatha; they are large, of a deep yellow colour, and the petals are heart-ſhaped; they appear in July, and the ſeeds ripen in the autumn.

and Tuberoſe Commelina, 2. Tuberoſe *Commelina.* The root is compoſed of many thick, fleſhy tubers, joined together at the top. The ſtalks are tender, weak, and ſend out a few branches from the lower parts. The leaves are oval, ſpear-ſhaped, ciliated, and ſit cloſe to the ſtalks. The flowers come out from the wings of the leaves, towards the upper parts of the ſtalks, on ſlender footſtalks; they are moderately large; and the three interior petals are roundiſh, and of a blue colour, but the three outer petals are green; they appear in July and Auguſt, and the ſeeds ripen in the autumn.

Graſs leaved Zanonia, 3. Graſs-leaved *Zanonia.* The ſtalks are trailing, and ſtrike root at the joints. The leaves are ſpear-ſhaped, narrow, graſſy, and embrace the ſtalk with their baſe. The flowers come out, three or four together, from the upper parts of the ſtalks, on thick footſtalks; the three interior petals are large, and of a ſky-blue colour, but the three outer ones are ſmall and green; they appear in July and Auguſt, and ſometimes the ſeeds ripen in the autumn.

Malabrian Ephemerum, 4. Malabrian *Ephemerum.* The ſtalk is round, tender, and three or four inches long. The leaves are narrow, and embrace the ſtalk with their baſe. The flowers are produced from the wings of the leaves, ſitting cloſe, having no footſtalks; they appear in July and Auguſt, and the ſeeds ripen in the autumn.

and Criſted Commelina, deſcribed. 5. Criſted *Commelina.* The ſtalks are tender, and lie on the ground. The leaves are ſmall, and embrace the ſtalk with their baſe. The flowers are produced from the wings of the leaves, near the upper parts of the ſtalks; they appear in July and Auguſt, and the ſeeds ripen in the autumn.

Culture. Theſe ſorts are of ſhort duration with us, and may be raiſed as Annuals by ſowing the ſeeds on a hotbed in the ſpring. When the plants are fit to remove, they ſhould be pricked out upon a ſecond hotbed, and ſhaded and watered until they have taken root. They muſt then have more air, and the two firſt ſorts may be hardened to bear the full air, and be taken up with a ball of earth to each root, and planted on ſome rich, light ground; where, if they are watered and ſhaded until they have taken root, they will flower, and perfect their ſeeds in the autumn. The others ſhould be kept conſtantly in the bed, to be protected from cold evenings and heavy rains; and there they will flower, and the ſeeds frequently ripen.

In order to continue the reſpective kinds thro' the winter, they ſhould be potted ſeparately, and in the autumn taken into the ſtove. The firſt ſort may be continued in a good green-houſe, but it does beſt in a temperate degree of heat; the ſecond alſo requires to be ſtationed in a moderate bark ſtove; but the three laſt ſorts require a good warm ſtove to continue them through the winter.

The roots of the fourth ſort may be taken up in the autumn, kept in a dry, warm place all winter, and planted on a hotbed in the ſpring; and ſuch plants will flower ſtronger than ſuch as have been raiſed from ſeeds the ſame year.

Titles. 1. The firſt ſpecies is titled, *Commelina corollis inæqualibus, foliis lanceolatis glabris, caule decumbente.* Van Royen calls it, *Commelina procumbens, flore luteo*; and Wachendorf, *Commelina radice perenni, foliis lanceolatis, caule repente glabro, petalis duobus majoribus.* It grows naturally in Æthiopia. Africana

2. The ſecond ſpecies is titled, *Commelina corollis æqualibus, foliis ſeſſilibus ovato-lanceolatis ſubciliatis.* In the *Hortus Cliffort.* it is termed, *Commelina foliis ovato-lanceolatis, petalis tribus majoribus æqualibus.* Dillenius calls it, *Commelina radice anacampſerotides.* It is a native of Mexico. Tuberosa

3. The third ſpecies is titled, *Commelina corollis æqualibus, pedunculis incraſſatis, foliis lanceolatis: vaginis laxis margine hirſutis, bracteis geminis.* Plumier calls it, *Zanonia graminea perfoliata*; and Sloane, *Peryclemenum rectum herbaceum, gentianæ folio, folii pediculo caulem ambiente.* It grows naturally in New Spain. Zanonia

4. The fourth ſpecies is titled, *Commelina corollis æqualibus, floribus ſeſſilibus, foliis linearibus.* Ray calls it, *Ephemerum Malabaricum, flore tripetalo in foliorum alis ſeſſili*; and Plukenet, *Ephemerum phalangoides Maderaſpatanum minimum ſecundum caulem quaſi ex utriculis floridum.* It grows naturally in India. Axillaris

5. The fifth ſpecies is titled, *Commelina corollis æqualibus, involucris ſpicatim imbricatis.* Herman calls it, *Ephemerum Zeylanicum procumbens inflatum.* It grows naturally in Ceylon. Cristata

CHAP. LXXI.

CONOCARPUS, The BUTTON-TREE.

THIS genus at preſent conſiſts of the following ſpecies only:

Species.
1. Upright Button-tree.
2. Racemoſe Button-tree.
3. Procumbent Button-tree.

Upright Button-Tree deſcribed. 1. Upright Button-tree. The trunk is upright, ſometimes near a foot diameter, ſends out many erect branches from the ſides, and grows to be twenty or thirty feet high. The leaves are oblong, ſpear-ſhaped, long, and grow on ſhort footſtalks. The flowers come out from the ends and ſides of the branches, and ariſe from the wings of the leaves in conical heads; they are ſmall, and of a reddiſh colour, but are not ſucceeded by ſeeds in England.

Variety. There is a variety of this ſpecies with yellow flowers.

Racemoſe 2. Racemoſe Button-tree. The trunk is upright, near twenty feet high, and divides into many ſpreading branches near the top. The leaves are ſpear-ſhaped, oval, obtuſe, and grow on biglandulous footſtalks. The flowers come out from the ends of the branches in looſe cluſters, but are not ſucceeded by ſeeds in England.

and Procumbent Button-tree deſcribed. 3. Procumbent Button-tree. The ſtalks are ligneous, branching, and lie on the ground. The leaves are roundiſh, oval, thick, and come out from every ſide of the branches on ſhort footſtalks. The flowers are produced from the ſides of the branches in roundiſh heads; they are ſmall and greeniſh, and are not followed by fruit in England.

Culture. Theſe plants are propagated by ſeeds, which muſt be procured from the places where they naturally grow. They muſt be ſown in pots filled with rich, ſandy earth, and plunged up to the rims in a hotbed of tanner's bark. When the plants come up, they muſt be frequently watered, but muſt have it in a ſmall quantity at a time; and when they are fit to remove, muſt be planted ſeparately in pots filled with very rich earth, made light with a fourth part mixture of drift or ſea-ſand. A proper watering muſt be afforded the plants to ſettle the mould to the roots, and they muſt be plunged again into the bark-bed; and if the heat ſhould be abated, it ſhould be renewed. Here they muſt be duly watered, and kept ſhaded, until they have taken root, and after that muſt have more air according to the warmth of the weather. In the autumn they muſt be taken into a temperate bark-ſtove, where they muſt be treated with water ſparingly in winters, but muſt have it frequently, and plenty of free air, in hot weather in ſummers.

Titles. Erecta. 1. The firſt ſpecies is titled, *Conocarpus erecta, foliis lanceolatis.* In the *Hortus Cliffort.* it is termed ſimply, *Conocarpus.* Brown calls it, *Conocarpus foliis oblongis, petiolis brevibus, floribus in caput conicum*; Plukenet, *Alnus maritima myrtifolia coriariorum*; Sloane, *Alni fructu laurifolia arbor maritima*; Amman, *Rudbeckia laurifolia maritima*; and Plumier, *Innominata.* It grows naturally in the maritime parts of Jamaica, Bermudas, and the Braſils.

Racemosa. 2. The ſecond ſpecies is titled, *Conocarpus foliis lanceolato-ovatis obtuſiuſculis, fructibus ſejunctis.* Brown calls it, *Conocarpus foliis elliptico-ovatis, petiolis biglanduloſis, racemis laxis, fructibus ſejunctis*; and Sloane, *Mangle julifera, foliis ellipticis ex adverſo naſcentibus.* It inhabits the maritime parts of Jamaica.

3. The third ſpecies is titled, *Conocarpus procumbens, foliis ſubrotundis.* It is a native of Cuba.

Claſs and Order in the Linnæan Syſtem. The characters. *Conocarpus* is of the Claſs and Order *Pentandria Monogynia*; and the characters are,

1. Calyx is a ſmall, monophyllous perianthium ſituated above the germen, and divided into five acute, erect, awl-ſhaped ſegments.

2. Corolla is five connivent petals; though ſometimes theſe are wanting.

3. Stamina are five or ten awl-ſhaped, erect filaments, with globular antheræ.

4. Pistillum conſiſts of a large, obtuſe, compreſſed germen ſituated under the calyx, one ſhort ſtyle, and an obtuſe ſtigma.

5. Pericarpium. There is none.

6. Semen. The ſeed is ſingle, oboval, and furniſhed with a thick, prominent, membranaceous border.

It muſt be obſerved, that many germens are collected together in an imbricated manner, and form a roundiſh, conical head, in ſhape like a cone of the Alder-tree.

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CHAP. LXXII.

CONVOLVULUS, BINDWEED.

THE ſpecies of the *Convolvulus* proper for this place are,

Species.
1. Purging Sea Purple-flowered Bindweed.
2. Purging Sea White-flowered Bindweed.
3. *Convolvulus Turpethum.*
4. Trifid *Convolvulus.*
5. Five-leaved Hairy-ſtalked *Convolvulus.*
6. Five-leaved Smooth-ſtalked *Convolvulus.*
7. Seven-leaved *Convolvulus.*

Purging Sea Purple-flowered 1. Purging Sea Purple-flowered Bindweed. This plant hath many trailing ſtalks, which ſpread themſelves all around. The leaves are of an oval figure, and their edges are indented. The flowers are large, and of a fine purple colour; one common footſtalk ſupports three flowers, and the ſeed-veſſels that ſucceed them are large and oval.

and Purging Sea White-flowered Bindweed deſcribed. 2. Purging Sea White-flowered Bindweed. This is a creeping plant. The ſtalks creep along the ground, and ſend forth roots at the joints, where each becomes a diſtinct plant. The leaves are ſagittated or arrow-ſhaped, and the hinder parts of their lobes are obtuſe. The flowers are large and white, though there is a variety with pale yellow flowers. Each grows on its diſtinct footſtalk. The calyx of each flower is large, and inflated: They grow from the ſides of the ſtalks on very long footſtalks, and are ſucceeded by ſmooth, oval capſules, containing the ſeeds.

Convolvulus Turpethum,

3. *Convolvulus Turpethum.* The roots of this ſpecies are the Turpethum of the ſhops. They are brought from India, and their virtues in medicine are well known. They are very thick, fleſhy, and ſpreading, and being broken ſend forth a milky juice, which hardens on being expoſed to the air. From theſe roots iſſue many ſmall, twining, quadrangular, membranaceous ſtalks, the leaves of which are heart-ſhaped and angular. The flowers are produced from the joints of the ſtalks, many of them growing together on one common footſtalk; they are large, of a clear white colour, and are ſucceeded by round capſules containing the ſeeds.

Trifid,

4. Trifid *Convolvulus.* This ſends forth many weak, twining branches, that are covered with a whitiſh down. The leaves alſo are very downy, large, broad, and deeply divided into three broad, undivided, ſharp-pointed lobes; their footſtalks alſo are downy, eſpecially near the main ſtem, long, and placed alternately on the branches. The flowers are large, and of a beautiful purple colour; they grow ſingly on long footſtalks, and are ſucceeded by oblong capſules containing the feeds.

and Five-leaved Hairy-ſtalked Convolvulus deſcribed.

5. Five-leaved Hairy-ſtalked *Convolvulus.* This hath many twining, hairy ſtalks, which will ariſe by the help of buſhes to a conſiderable height. The leaves are very hairy and ſtinging; they are deeply divided into five lobes, and are placed on long footſtalks on the branches. The flowers grow two on a footſtalk; they are large and of a fine purple colour, and are ſucceeded by large capſules containing the ſeeds.

Varieties.

There are ſeveral varieties of this ſpecies, ſome of which have many flowers growing on a footſtalk, and others have flowers of a pale yellow colour.

Five-leaved Smooth-ſtalked

6. Five-leaved Smooth-ſtalked *Convolvulus.* This will riſe, by its twining ſtalks, to twenty-five or thirty feet high. Theſe ſtalks are ſmooth, and the leaves are divided into five ſharp-pointed lobes. The flowers are very large, and of a fine purple colour. Each flower has its ſeparate footſtalk, which is jointed; and they are ſucceeded by exceeding large, round ſeed-veſſels.

and Seven-leaved Convolvulus deſcribed.

7. Seven-leaved *Convolvulus.* This riſes with a ſtrong, winding ſtalk, which divides into ſmaller, and by the help of buſhes will aſpire to twenty feet or more in height. The leaves are compoſed of five or ſeven lobes, which are ſpear-ſhaped, and have their edges deeply indented. The flowers are produced ſingly on footſtalks; they are in general of a fine purple colour, tho' there is a variety with beautiful white flowers; all of which are ſucceeded by large, roundiſh capſules containing the ſeeds.

Culture.

All theſe ſorts are eaſily raiſed; the difficulty will be to preſerve them afterwards. Sow the ſeeds thinly on a good hotbed early in March; ſee that the ſoil be light, ſandy, and rich, and cover them about three quarters of an inch deep. There are hardly any ſeeds which ſtrike with more readineſs than thoſe of all the ſpecies of the *Convolvulus*; ſo that you may ſoon expect the plants to appear. At this time keep your glaſſes well matted down in cold nights; and turn the glaſſes, as the ſteam condenſes, to prevent its dropping on the plants; and if the weather will not allow of this, wipe off the moiſture with a woollen cloth: At the ſame time let them have as much free air as poſſible, to prevent their drawing weak; and when they are about four inches high, plant them ſeparately in pots. Let a ball of earth be preſerved to each root at the time of removing; let a little water be given them, and plunge theſe pots into a bark-bed, or a freſh hotbed of dung. Give them all poſſible air in fine weather, ſhade the glaſſes in the heat of the day, and give them frequent, tho' but very gentle waterings, eſpecially the *Turpethum* and the *Jalap*; for too much will ſoon rot their ſucculent roots. When they are grown of a ſize to fill theſe ſmall pots, they muſt be turned out into larger, filled with rich, looſe, ſandy earth; after which they muſt have the benefit of a third hotbed. They muſt have water in great plenty, and a large ſhare of air muſt be given them. The glaſſes muſt be raiſed as they advance in height; and after this they may be removed at pleaſure into the ſtove.

After all, the larger growing ſorts eſpecially ſhould never be thought of for culture, unleſs the ſtove be large, and there be much room; and where there are theſe conveniencies, they will blow fair, and amply reward the toil and pains of raiſing them, by a profuſion of their beautiful flowers.

Titles.

Braſiliensis.

1. Purging Sea Purple-flowered Bindweed is titled, *Convolvulus foliis emarginatis baſi biglandulofis, pedunculis trifloris.* Plumier calls it, *Convolvulus marinus catharticus, folio rotundo, flore purpureo.* It grows naturally on the ſea-ſhores in moſt of the Weſt India Iſlands.

Repens.

2. Purging Sea White-flowered Bindweed is titled, *Convolvulus foliis ſagittatis poſticè obtuſis, caule repente, pedunculis unifloris.* Plumier calls it, *Convolvulus marinus catharticus foliis acetoſæ, flore niveo.* It grows on the ſea-ſhores in many parts of America.

Turpethum.

3. *Convolvulus Turpethum* is titled, *Convolvulus foliis cordatis angulatis, caule membranaceo-quadrangulari, pedunculis multifloris.* Caſpar Bauhine calls it, *Turpethum repens, foliis althææ, vel Indicum.* It grows naturally in the Iſland of Ceylon.

Tomentoſus.

4. Trifid *Convolvulus* is titled, *Convolvulus foliis trilobis, caule lanuginoſo.* Sloane and Ray agree in calling it, *Convolvulus folio lanato in tres lacinias diviſo, flore oblongo purpureo.* It grows naturally in Jamaica.

Pentaphyllus.

Serpens B

5. Five-leaved Hairy-ſtalked *Convolvulus.* One common title belongs to all the ſorts, which is, *Convolvulus foliis digitatis quinis piloſis integerrimis, caule piloſo.* Titles expreſſive of the different varieties are found among authors. Thus Plumier calls one, *Convolvulus pentaphyllos flore glabro dentato, viticulis hirſutis*; and Herman another, *Convolvulus Americanus pentaphyllus & heptaphyllus major*; and the like. This ſpecies in all its varieties is found growing in many parts of America.

CHAP.

CHAP. LXXIII.

CONYZA, FLEA BANE.

THE more tender ſpecies of this genus found in our gardens are,

Species.

1. Tree Flea Bane.
2. Shrubby Flea Bane.
3. Sweet-ſcented Flea Bane.
4. Balſamiferous Flea Bane.
5. Tortuous Flea Bane.
6. Lobated Flea Bane.
7. Saxatile Flea Bane.

Tree Flea Bane deſcribed.

1. Tree Flea Bane. This plant riſes with a woody ſtem to the height of about eight or ten feet, ſending forth many branches, which are covered with a mealy bark. The leaves are oval, acute, undivided, hairy, of a ſilvery whiteneſs underneath, and placed alternately, without any footſtalks, on the branches. The flowers are of a pale purple colour, and come out in recurved ſpikes from the ends and ſides of the branches; but they are never followed by good ſeeds in our gardens.

Varieties.

There is a variety of this plant with fine blue flowers, and another of lower growth, with narrow, ſpear-ſhaped leaves.

Shrubby Flea Bane deſcribed.

2. Shrubby Flea Bane. This plant riſes with a ſhrubby branching ſtalk to about ſix feet high. The leaves are oval, undivided, obtuſe, ſmooth, and placed alternately, without any footſtalks, on the branches. The flowers grow alternately from the ſides of the branches; they have no footſtalks, are of a purple colour, and are ſucceeded by downy heads, which hardly ever contain ripe ſeeds in our gardens.

Variety.

There is a variety of this plant with white flowers.

Sweet-ſcented Flea Bane deſcribed.

3. Sweet-ſcented Flea Bane. The ſtalks of this plant are ſhrubby, upright, branching, and grow to four or five feet high. The leaves are oval, hairy, ſerrated, acute, downy underneath, and placed on ſhort footſtalks on the branches. The flowers are produced in roundiſh bunches, are of a purple colour, very fragrant, and ſucceeded by downy heads containing the ſeeds.

Varieties.

There are two or three varieties of this ſpecies: One is of low growth; another is diſtinguiſhed for its broad, rough leaves; and a third has ſmooth leaves, and flowers of a pale purple colour.

Balſamiferous,

4. Balſamiferous Flea Bane. The ſtalk of this plant is ſhrubby, branching, and four or five feet high. The leaves are ſpear-ſhaped, downy underneath, and when bruiſed emit a fine balſamic odour. The flowers are produced from the ends and ſides of the branches in ſmall heads. Their colour is purpliſh, and they are ſucceeded by downy heads containing the ſeeds.

Tortuous,

5. Tortuous Flea-bane. The ſtalks of this plant are ſhrubby, climbing, ſend forth many branches, and will grow to twelve feet high. The leaves are oval, oblong, undivided, nervous, of a thick ſubſtance, continue all winter on the plant, and are of a pale-green colour. The flowers are produced from the ſides of the branches in long, reflexed ſpikes. They are large, white, and are ſucceeded by downy, dark-coloured ſeeds.

and Lobated Flea Bane deſcribed.

6. Lobated Flea Bane. The ſtalk of this plant is ſhrubby, branching, and grows to be ſeven or eight feet high. The leaves are rough; and each of the lower ones is cut into three parts, or divided into three lobes; thoſe on the upper part of the plant being oval, ſpear-ſhaped, hairy, and ſlightly ſerrated on their edges. The flowers are produced in roundiſh bunches from the ends of the branches; their colour is yellow, and they are ſucceeded by downy heads containing the ſeeds.

Saxatile Flea Bane deſcribed.

7. Saxatile Flea Bane. The ſtalks of this plant are ligneous, downy, weak, and at firſt, unleſs ſupported, will lie on the ground: As they advance in height, they encreaſe in ſtrength, and become powerful enough to ſupport themſelves in an erect poſition. The leaves are narrow, ſlightly indented, downy, acute, and grow alternately. The flowers come out ſingly from the ſides of the branches; they are collected in long, cylindrical heads, and are ſucceeded by downy ſeeds, which ſometimes ripen in our gardens.

Culture.

The ſeeds of all theſe ſorts, except the laſt, ſeldom ripen in our gardens; therefore they muſt be procured from the countries where they naturally grow. As ſoon as they arrive, ſow them in pots filled with light, ſandy earth; and if it be the autumn or winter, ſet them under ſhelter until the ſpring. In March let the pots be plunged up to the rims in the mould of an hotbed. This will ſoon bring up the plants; when all poſſible air muſt be granted them, and they muſt have frequent ſprinklings of water. When they are about three inches high, let each plant be ſet in its own ſeparate ſmall pot filled with light, ſandy, freſh earth; plunge them immediately into the mould of a ſecond hotbed; and ſhade and water them until they have taken root. As the days get long and warm, give them proportionally more air, and repeat the watering rather oftener; uſe them to the open air by degrees, and in very fine, warm weather take the glaſſes entirely off. Some provide a third hotbed for theſe plants; but theſe two, with good linings of freſh dung, will be ſufficient. In this ſituation they may remain, covering them with the glaſſes in cold and very wet weather, and uncovering them on all favourable opportunities, until the end of Auguſt or beginning of September; when they ſhould be removed into the ſtove for their winter lodgings.

The coldeſt ſtove muſt be allotted them, where they will thrive much better than in a greater degree of heat.

They ſhould be ſet abroad in a warm, well-ſheltered place during the hotteſt part of the ſummer, and as they advance in height muſt be ſhifted into larger pots; and this is the mode of management their natures will require, to cauſe them to aſſume an healthy appearance, and produce their flowers beautiful and ſtrong.

The ſeventh ſort will do very well in a greenhouſe, provided you have no ſtove to cauſe it to blow more fair, and with greater certainty to perfect its ſeeds.

Titles.

Arborescens.

1. Tree Flea Bane is titled, *Conyza foliis ovatis integerrimis acutis ſubtus tomentoſis, ſpicis recurvatis ſecundis, bracteis reflexis.* Plumier calls it, *Conyza arboreſcens, floribus cæruleis*; Sloane, *Conyza fruticoſa, flore pallidè purpureo, capitulis e lateribus ramulorum ſpicatim exeuntibus*; and Brown, *Eupatorium erectum hirſutum, foliis oblongis rugoſis, floribus ſpicatis per ramulos terminales declinatis,*

declinatis, uno verſu diſpoſitis. It inhabits Jamaica.

Fruticosa. 2. Shrubby Flea Bane is titled, *Conyza foliis ovatis integerrimis obtuſis, floribus ſeſſilibus alternis, ramulis flexuoſis.* Plumier calls it, *Conyza fruteſcens, cydoniæ folio*; alſo, *Eupatorium Americanum fruteſcens, hederæ terreſtris folio, flore purpuraſcente.* It grows naturally in America.

Odorata. 3. Sweet-ſcented Flea Bane is titled, *Conyza foliis ovatis ſerratis ſubtomentoſis acutis, caule corymboſo, corollis ſubgloboſis.* Brown calls it, *Conyza odorata minor erecta purpuraſcens corymboſa, foliis ovatis villoſis*; Plumier, *Conyza arboreſcens purpurea, folio verbaſci dentato*; Sloane, *Conyza major odorata, ſ. Baccharis floribus purpureis*; and Plukenet, *Eupatoria conyzoides Maderaſpatana, foliis glabris, flore purpuraſcente.* It is a native of the warmer parts of America.

Balſamifera. 4. Balſamiferous Flea Bane is titled, *Conyza foliis lanceolatis ſubtus tomentoſis, petiolis etiam ſerrato-dentatis.* Rumphius calls it, *Conyza odorata*; and Plukenet, *Conyza arbor Zeylanenſis, ſubrotundo folio maximè tomentoſo.* It inhabits India.

Tortuosa. 5. Tortuous Flea Bane is titled, *Conyza caule tortuoſo fruticoſo, foliis ovato-oblongis integerrimis, racemis reflexis.* Vaillant calls it, *Conyza Madagaſcarienſis fruticoſa, tortuoſo caule, corni folio.* It inhabits Madagaſcar and Vera Cruz.

Lobata. 6. Lobated Flea Bane is titled, *Conyza foliis inferioribus trifidis ſuperioribus ovato-lanceolatis obſoletè ſerratis, floribus corymboſis.* Plumier calls it, *Conyza arboreſcens lutea, folio trifido*; and Sloane, *Virga aurea major, ſ. Doria folio ſinuato hirſuto.* It grows naturally in Jamaica.

Saxati=
=lis. 7. Saxatile Flea Bane is titled, *Conyza foliis linearibus ſubdentatis, pedunculis longiſſimis unifloris, caule fruteſcente tomentoſo.* In the *Hortus Cliffort.* it is termed, *Gnaphalium foliis alternis linearibus acutis planis, pedunculis longiſſimis unifloris.* Moriſon calls it, *Helichryſum capitulis ſingularibus brevibus*; Boccone, *Helichryſum ſaxatile, ſingulari capitulo amplo, anguſto ſtœchadis folio*; and Caſpar Bauhine, *Elichryſo ſylveſtri, flore oblongo, ſimilis.* It grows naturally at the Cape of Good Hope, alſo in Italy, Iſtria, Carinthia, Valeſia, and Paleſtine.

CHAP. LXXIV.

COPAIFERA, The BALSAM OF CAPIVI TREE.

Culture. THIS genus at preſent conſiſts of one ſpecies only, called The Balſam of Capivi Tree.

The plant deſcribed. The tree is large, branching, and grows to be fifty or ſixty feet high. The leaves are roundiſh. The flowers are red. The fruit is globular, fleſhy, and of a yellow colour when ripe.

Account of its juice, It is the liquid, reſinous juice of theſe trees that is the Balſam of Capivi of the ſhops. The trees are tapped, and the liquor flows in ſuch plenty from the wounded part, that five or ſix gallons are often collected from one tree in a ſmall time.

It is obſervable, that theſe trees do not all yield the Balſam; but ſuch as do, are known by a longitudinal ridge down the trunk; and after being once tapped, they never yield any more Balſam.

its colour, &c. The juice at firſt is of about the conſiſtence of oil, of a whitiſh-yellow colour, and agreeable ſmell; but it thickens by keeping, and does not become ſolid like moſt other reſinous juices.

and uſes in medicine. Its uſes in medicine are various. Externally applied, it is a good vulnerary; taken inwardly, it is detergent, diuretic, heals exulcerations in the urinary paſſage, and ſtrengthens the nervous ſyſtem. It is likewiſe ſaid to be good in ſcorbutic cachexies, dyſenteries, putreſcent ſtate of the juices, coughs, &c.

It diſſolves in rectified ſpirit, yields by diſtillation a limpid eſſential oil, and is an ingredient in the Balſamic Tincture, and Tincture of Cantharides.

Culture. This famous tree is raiſed by ſowing the ſeeds in pots filled with light, rich earth, and plunging them into a hotbed of tanner's bark. When the plants are four inches high, they muſt be potted ſeparately, be plunged again into the hotbed, and watered and ſhaded, in the heat of the day, until they have taken root. After that they muſt have more air, and in the autumn be taken into a good bark-ſtove; where they ſhould conſtantly remain, ſhifting them from time to time into larger pots, as often as they ſhall require, and affording them all proper management due to tender plants.

Officina=
=lis. There being no other ſpecies belonging to this genus, it is named ſimply, *Copaifera*. Ray and others call it, *Copaiba*. It grows naturally in the Braſils and the Antilles.

Claſs and Order in the Linnæan Syſtem. *Copaifera* is of the Claſs and Order *Decandria Monogynia*; and the characters are,

The characters.

1. Calyx. There is none.
2. Corolla is four oblong, acute, concave, ſpreading petals.
3. Stamina are ten filiforme, incurved filaments ſomewhat longer than the corolla, having oblong, incumbent antheræ.
4. Pistillum conſiſts of a round, compreſſed, plane, pedicellated germen, a filiforme, incurved ſtyle the length of the ſtamina, and an obtuſe ſtigma.
5. Pericarpium is fleſhy and globular.
6. Semina. The ſeeds are many, and ſurrounded by the pulp.

CHAP. LXXV.

CORCHORUS, JEWS MALLOW.

Species. OF this genus theſe two ſpecies demand a place in the Temperate Stove:

1. Elm-leaved Jews Mallow.
2. Hornbeam-leaved Jews Mallow.

Elm-leaved, 1. Elm-leaved Jews Mallow. The ſtalk of this plant is ſhrubby, branching, and grows to three or four feet high. The leaves are oval, ſpear-ſhaped, ſerrated, have no footſtalks, and have ſeveral other very ſmall leaves growing irregularly among them. The flowers are produced from the ſides of the branches on very ſhort footſtalks; they are ſmall, ſtramineous, come out at different times of the year, and are ſucceeded by very narrow, compreſſed capſules, containing the ſeeds.

and Hornbeam leaved Jews Mallow deſcribed. 2. Hornbeam-leaved Jews Mallow. The ſtalks of this plant are ligneous, branching, and grow to a yard high. The leaves are roundiſh, heart-ſhaped, rough, waved and ſerrated. The flowers grow from the ſides of the branches, in July or Auguſt; they are yellowiſh, and are ſucceeded by oblong, ſix-furrowed, ſix-pointed capſules, containing the ſeeds.

Culture. Theſe plants are raiſed from the ſeeds, in the manner that has been directed for the Annuals, on three ſucceſſive hotbeds. When they are in the third hotbed, in the middle of the ſummer the glaſſes may be wholly taken off; but the plants ſhould always be covered again if heavy rains come, or cold damp weather, which even in July and Auguſt ſometimes happens. In September they ſhould be placed in the temperate ſtove; and in the hotteſt ſummer months they ſhould every year be ſet abroad in a warm, well-ſheltered place. They muſt be ſhifted at times into larger pots, until they are at their full growth; and this is all the trouble they will require.

Titles. 1. Elm-leaved Jews Mallow is titled, *Corchorus capſulis linearibus compreſſis, foliis lanceolatis æqualiter ſerratis.* In the *Amœnitates Acad.* it is termed, *Corchorus coreta.* Plumier calls it, *Corchorus, folio ulmi, minor*; Sloane, *Corchoro affinis chamædryos folio, flore ſtramineo, ſeminibus atris quadrangulis duplici ſerie diſpoſitis*; and Brown, *Coreta foliis minoribus ovatis crenatis, floribus ſingularibus.* It inhabits Jamaica. Siliquoſus.

2. Hornbeam-leaved Jews Mallow is titled, *Corchorus capſulis oblongis ſexſulcatis ſexcuſpidatis, foliis cordatis, infimis ſerraturis ſetaceis.* Plukenet calls it, *Alcea cibaria ſ. corchorus Americana, carpini foliis, ſexduplici capſulâ longiore*; and Brown, *Triumfetta ſubvilloſa, foliis rotundioribus undulatis atque dentatis, poſtremis in ſetas inermes.* It grows naturally in the warmer parts of America. Æstuans.

CHAP. LXXVI.

CORDIA, SEBESTAN.

Species. THIS genus conſiſts of five ſpecies, viz.

1. *Myxa*, or Aſſyrian Plum.
2. *Sebeſtan.*
3. *Geraſcanthus.*
4. Rough-leaved *Collococcus*, or Clammy Cherry.
5. Broad-leaved *Collococcus*.

Myxa, or Aſſyrian Plum, 1. *Myxa*, or Aſſyrian Plum. The trunk of this plant is thick, branching, and fifteen or twenty feet high. The leaves are oval, ſerrated, indented, and downy. The flowers are produced in roundiſh bunches from the ſides of the branches, and in warm countries are ſucceeded by a roundiſh, blackiſh fruit, as large as a moderate plum.

and Sebeſtan deſcribed. 2. *Sebeſtan.* The ſtalks of this plant are woody, branching, and eight or ten feet high. The leaves are oblong, oval, rough, of a deep green colour on their upper-ſide, and grow alternately on ſhort footſtalks. The flowers come out in cluſters from the ends of the branches: They are of a beautiful ſcarlet colour, and are ſucceeded by a ſweet-taſted glutinous fruit, which adheres cloſely to the ſtone.

Their Medicinal Properties. Both theſe ſorts of plums, as they are called, are uſeful in ſome coughs and hoarſenſſes, and ſoftening to acrimonious humours.

Geraſcanthus, and 3. *Geraſcanthus.* The ſtem is woody, round, and branching near the top. The leaves are ſpear-ſhaped, oval, and very rough on both ſides. The flowers come out in panicles from the ends of the branches, having ten ſtriated cups; but they are rarely ſucceeded by fruit in England.

Rough-leav'd Collococcus, deſcribed. 4. Rough-leaved *Collococcus*, or Clammy Cherry. This is a large tree. The trunk is upright, ſtraight, covered with a dark grey bark, ſends forth branches by threes, and grows to about forty feet high. The leaves are oblong, oval, entire, veined, very rough, and grow on ſhort footſtalks. The flowers are produced from the ends of the branches in looſe, roundiſh bunches, and are ſucceeded by globular berries, full of a clammy juice, of a deep ſcarlet colour when ripe.

Broad-leaved Collococcus deſcribed. 5. Broad-leaved *Collococcus.* The trunk of this plant is large, covered with a grey, furrowed bark, ſends out many crooked branches, and grows to be forty or fifty feet high. The leaves are very large, broad, oval, rough, hairy, and grow on ſhort footſtalks. The flowers are produced from the ends of the branches in looſe bunches, and are ſucceeded by ſmall, roundiſh berries, which are of a red colour when ripe.

Culture. All theſe plants are raiſed from the ſeeds, which muſt be procured from the countries where they naturally grow; for they do not ripen in England. They muſt be ſown in pots filled with good fine mould, and then be plunged up to the rims in a hotbed of tanner's bark. The mould muſt be kept moiſt in the pots by frequent ſprinklings with water; and in about five or ſix weeks time the plants will appear, if the ſeeds were good. After they come up they muſt have as much air as poſſible, and be duly watered at proper intervals. When they are about three or four inches high, they muſt be potted ſeparately, be again plunged into a hotbed, and ſhaded in the heat of the day. When they

they have commenced a good growing ſtate, they muſt be uſed by degrees to the open air; and in autumn the two firſt ſpecies may be ſtationed in a very temperate bark ſtove, but the others require one of the beſt warm ſtoves to continue them flouriſhing in full vigour. The three laſt ſorts muſt always remain in the bark ſtove; but the two firſt, when they are grown ſtrong, may be ſet abroad with other tender plants for about two months in the hotteſt part of the ſummer; after which they may be taken into the dry ſtove, a very ſmall degree only of artificial heat being neceſſary for them.

Titles. Myxa. 1. The firſt ſpecies is titled, *Cordia foliis ovatis tomentoſis, corymbis lateralibus, calycibus decemſtriatis.* In the *Hortus Cliffort.* it is termed, *Cordia foliis ſubovatis ſerrato-dentatis.* Caſpar Bauhine calls it, *Sebeſtena ſylveſtris et domeſtica*; and Commeline, *Sebeſtena domeſtica ſ. Myxa.* It grows naturally in Ægypt and Malabar.

Sebestena. 2. The ſecond ſpecies is titled, *Cordia foliis oblongo-ovatis repandis ſcabris.* Plumier calls it, *Cordia nucis juglandis folio*; Brown, *Cordia foliis amplioribus hirtis, tubo floris ſubæquali*; Dillenius, *Sebeſtena ſcabra, flore miniato criſpo*; Sloane, *Caryophyllus ſpurius inodorus, folio ſubrotundo ſcabro, flore racemoſo hexapetaloide coccineo*; and Rumphius, *Novella nigra.* It grows naturally in both the Indies.

Geraschanthus. 3. The third ſpecies is titled, *Cordia foliis lanceolato-ovatis ſcabris, paniculâ terminali, calycibus decemſtriatis.* Brown calls it, *Geraſcanthus, foliis ovato-oblongis utrinque productis, racemis terminalibus.* It grows naturally in Jamaica.

4. The fourth ſpecies is called, *Cordia foliis oblongo-ovatis integerrimis, floribus ſubcorymboſis, calycibus internè tomentoſis.* In the former edition of the *Species Plantarum* it is titled, *Cordia foliis ovatis integerrimis.* Brown calls it, *Collococcus foliis rugoſis venoſis oblongo-ovatis, floribus laxè racemoſis*; and Sloane, *Ceraſo affinis arbor baccifera racemoſa, flore pentapetalo herbaceo guttato, fructu coccineo monopyreno viſcido, ſemine rugoſo.* It grows naturally in Jamaica. Collococa.

5. The fifth ſpecies is titled, *Cordia foliis ovatis villoſis ſeſquipedalibus.* Brown calls it, *Collococcus platyphyllos major, racemis umbellatis*; and Sloane, *Prunus racemoſa, foliis oblongis hirſutis maximis, fructu rubro.* It grows naturally in Jamaica. Macrophylla.

Cordia is of the Claſs and Order *Pentandria Monogynia*; and the characters are, Claſs and Order in the Linnæan Syſtem. The characters.

1. Calyx is a monophyllous, tubular, permanent perianthium, indented at the top.

2. Corolla is one funnel-ſhaped petal. The tube is the length of the calyx. The limb is erect, patent, and cut into four, five, or ſix obtuſe ſegments.

3. Stamina are five awl-ſhaped filaments, with oblong antheræ the length of the tube.

4. Pistillum conſiſts of a roundiſh, acuminated germen, a ſimple bifid ſtyle (the ſegment alſo being bifid) the length of the ſtamina, and an obtuſe ſtigma.

5. Pericarpium is a globular, acuminated drupe, growing to the calyx.

6. Semen is a ſulcated nut, containing four cells.

* * *

CHAP. LXXVII.

CORNUTIA.

Species. THIS genus at preſent conſiſts only of one ſpecies, called, *Cornutia.*

The plant deſcribed. The ſtem is woody, branching, and ten or twelve feet high. The leaves are, like thoſe of *Viburnum*, ſoft, hoary, and grow oppoſite by pairs. The flowers come out from the ends of the branches in ſpikes; they are of a beautiful blue colour, appear in October, and often continue in ſucceſſion until Chriſtmas; but the ſeeds do not ripen in England.

Culture. It is propagated by planting the cuttings in pots filled with good mould from a well-ordered kitchen-garden, and plunging them into a hotbed of tanner's bark. They muſt be watered and kept ſhaded until they have taken root, and afterwards muſt have more air and frequent waterings all ſummer; in the autumn they muſt be taken into a warm, but not the hotteſt, bark ſtove, where they muſt remain, ſhifting them from time to time into larger pots as often as they ſhall require it, keeping them warm in winter, and allowing them much free air and conſtant ſupplies of water in ſummer.

It is alſo propagated by ſeeds; and by theſe the beſt plants are obtained. The ſeeds muſt be procured from the places where they naturally grow, and be ſown in pots filled with good light earth, and plunged into a bark-bed. After the plants are come up, and have gained ſome ſtrength, they ſhould be potted ſeparately, be plunged again into the hotbed, and well-watered, to ſettle the mould to the roots. Watering as often as there ſhall be occaſion muſt be repeated, and they muſt be ſhaded from the heat of the ſun till they have commenced a good growing ſtate, when they muſt be accuſtomed by degrees to more air; and in the autumn they muſt be taken into the ſtove, and managed like the cuttings. This ſpecies flowers within about three years from ſeeds, and ſhews its bloom in our ſtoves at different times of the year, but more eſpecially in the autumn, when it continues in beauty a long time.

There being no other ſpecies belonging to it, it is named ſimply, *Cornutia.* Plumier calls it, *Cornutia flore pyramidato, foliis incanis*; and Vaillant, *Agnanthus viburni folio.* It is a native of Campeachy and the Caribbees. Titles. Pyramidata.

Cornutia is of the Claſs and Order *Didynamia Angioſpermia*; and the characters are, Claſs and Order in the Linnæan Syſtem. The characters.

1. Calyx is a ſmall, monophyllous, roundiſh, tubular, permanent perianthium, indented in five parts at the edge.

2. Corolla is one ringent petal. The tube is cylindrical, and much longer than the calyx. The limb is cut into four ſegments, the upper ſegment being erect and roundiſh, the lateral ones diſtant, and the lower one roundiſh and entire.

3. Stamina are four filaments, two of which are longer than the flower, having ſimple, inclining antheræ.

4. Pistillum conſiſts of a roundiſh germen, and a very long ſtyle divided into two parts, having at the top of each part a thickiſh ſtigma.

5. Pericarpium is a globular berry, ſitting in the calyx.

6. Semen. The ſeed is ſingle, and kidney-ſhaped.

CHAP. LXXVIII.

CORONILLA, JOINTED-PODDED *COLUTEA*.

Species.

THERE is one ſpecies of this genus which is more than ordinarily tender, called, The Climbing *Coronilla*.

The plant deſcribed.

The ſtalk is ſlender, hairy, of a brown colour, three feet long, and twiſts about any thing that is near it. The leaves are pinnated, of a deep-green colour, and each of them conſiſts of about five oval folioles. The flowers are produced by pairs from the joints, ſtanding upon ſhort footſtalks; they are large, of a pale yellow colour, and are ſucceeded by long, taper, erect, downy pods, containing the ſeeds.

Culture.

This ſpecies is propagated by ſowing the ſeeds in the ſpring, in ſmall pots filled with light, ſandy earth. The pots ſhould then be plunged up to the rims in the mould of an hotbed; and after the plants are come up, they muſt receive the management of other tender plants until they are four or five inches high. They ſhould be then ſhifted into larger pots; but in doing this be careful not to diſturb the mould about the roots, as it will very much retard their growth. The pots muſt be immediately plunged in the mould of a ſecond hotbed, muſt be ſhaded in the heat of the day, and frequently watered. When the heat of this ſecond bed is exhauſted, it ſhould be lined with freſh dung, and it will keep them in a due degree of warmth all ſummer. In the autumn they ſhould be removed into the moſt temperate ſtove, plunging the pots into the bark-bed, and obſerving always to have proper ſticks, or an eſpalier, for them to twine about, otherwiſe they will wrap round and incommode every thing near them. The flowers are large, very beautiful, and the plant is worthy of a place among other Climbers in the ſtove; but it ſeldom laſts above three years; on which account the ſeeds muſt be regularly ſown at proper intervals, to keep up the ſucceſſion.

The ſeeds ſometimes ripen in our gardens; but when that does not happen, they are eaſily procured from America, where the plant grows naturally.

Titles. Scandens.

This ſpecies is titled, *Coronilla caule ſcandente flaccido*. Plumier calls it, *Coronilla ſcandens pentaphylla*. It grows naturally in America.

CHAP. LXXIX.

COSTUS.

Species.

THERE is only one ſpecies of this genus, commonly called *Coſtus*.

The plant deſcribed.

The root is large, thick, tuberous, knobbed, and ſpreads itſelf under the ſurface of the earth to a conſiderable diſtance. The ſtalk is round, gloſſy, jointed, full of pith, and grows to be four or five feet high. The leaves are oblong, narrow, pointed, ribbed, ſmooth, grow ſingly at the joints, and embrace the ſtalk with their baſe. The flowers are produced from the tops of the ſtalks in imbricated heads; they are of a pale-red or white colour, appear at different ſeaſons of the year, but are not ſucceeded by ſeeds in England.

Medicinal properties of the root.

The root of this ſpecies is of a yellowiſh-white colour, and of a ſweetiſh, warm, aromatic taſte, ſomewhat like Ginger; it is held pectoral, cephalic, attenuant, diuretic, ſudorific, and formerly was an ingredient in many compoſitions, but is now ſeldom uſed, and rarely to be met with in the ſhops.

Culture.

This plant is propagated by parting of the roots, the beſt time for which is the ſpring, before the ſtalks ariſe. They ſhould not be divided into too ſmall parts, as it will occaſion their being a long time before they flower. They muſt be ſet in pots filled with good mould from a well-ordered kitchen-garden. Their crowns muſt be ſet uppermoſt, and they muſt be covered over with the mould half an inch deep. They muſt be then plunged into a bark-bed, and in a little time their ſtalks will appear, when frequent waterings, and as much air as the weather will permit, ſhould be allowed them. Their after ſituation muſt be always in the beſt bark-ſtove, giving them very little water when the ſtalks are decayed and the roots remain inactive, but affording it them frequently, tho' in ſmall quantities at a time, when the ſtalks are growing and advancing to perfection.

Titles. Arabicus.

There being no other ſpecies belonging to this genus, it is termed ſimply, *Coſtus*. Caſpar Bauhine calls it, *Coſtus Arabicus*; Jaquin, *Alpina floribus ſpicatis*; *bracteis ovalibus*; Sloane, *Zingiber ſylveſtre majus, fructu in pediculo ſingulari*: and Brown, *Amomum minus, ſcapo veſtito, floribus ſpicatis*. It grows naturally in both the Indies.

Claſs and Order in the Linnæan Syſtem.

Coſtus is of the Claſs and Order *Monandria Monogynia*; and the characters are,

The characters.

1. Calyx is a ſmall perianthium, ſituated above the germen, and indented in three parts at the top.

2. Corolla is three ſpear-ſhaped, erect, concave, equal petals. The nectarium is monophyllous, large, oblong, tubular, inflated, and divided into two lips. The lower lip is broad, longer than the corolla, the extremity being ſpreading, and divided into three parts. The upper lip is ſpear-ſhaped, ſhort, and ſerves for a filament.

3. Stamina conſiſt of an anthera divided into two parts, growing to the upper lip of the nectarium, and ſupplying the office of a filament.

4. Pistillum conſiſts of a roundiſh germen ſituated below the calyx, a filiforme ſtyle the length of the filament, and a capitated, compreſſed, emarginated ſtigma.

4. Pericarpium is a roundiſh, coronated capſule, formed of three valves, and containing three cells.

6. Semina. The ſeeds are many, and triangular.

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CHAP. LXXX.

COTYLEDON, NAVEL WORT.

Species. THERE is only one beautiful ſpecies of this genus which requires its ſtation in the ſtove, called, The Jagged-leaved *Cotyledon.*

The plant deſcribed. The ſtalk is upright, jointed, ſucculent, and about a foot high. The leaves are broad, thick, and trifid; they are of a greyiſh colour, grow oppoſite to each other, and embrace the ſtalks with their baſe. The flowers come out from the ends of the branches on long footſtalks; each footſtalk ſupports ſeven or eight flowers: Theſe are ſmall, quadrifid, and of a golden-yellow colour. They come out at different times of the year, and are never ſucceeded by ſeeds in our gardens.

Culture. This plant is propagated by cuttings planted in pots filled with light, ſandy, freſh earth. The cuttings, after they are taken off, ſhould be firſt laid in a dry place for the wounded parts to ſkin over; and when this is effected, ſhould be then planted, and the pots plunged up to the rims in the mould of a hotbed. When they have taken root they ſhould be removed into the temperate ſtove, where they ſhould conſtantly remain; becauſe if they are ſet abroad, even in the hotteſt ſummer-months, and much rain ſhould happen, it will rot them. In ſummer, however, they may be ſet out if deſired, placing over them large hand-glaſſes; or they may be ſet in the glaſs-caſe, or in the green-houſe, or under any ſhelter, and in the autumn be removed into the ſtove as before.

Titles. This ſpecies is titled, *Cotyledon foliis trifidis, floribus quadrifidis.* Boerhaave calls it, *Cotyledon Afra, folio craſſo lato laciniato, floſculo aureo*; Plukenet, *Telephium Africanum, anguſtiori folio, flore aurantiaco*; and Rumphius, *Planta analis.* It grows naturally in Ægypt and India.

Laciniata.

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CHAP. LXXXI.

CRANIOLARIA.

Species. THIS genus conſiſts of two ſpecies, one of which is an annual, the other a ſhrub, called, Shrubby *Craniolaria.*

The plant deſcribed. The ſtem is woody, branching a little near the top, and eight or ten feet high. The leaves are ſpear-ſhaped, ſoft, hairy, and indented on their edges. The flowers come out many together on footſtalks from the ſides of the branches; they are of a greeniſh-yellow colour, have many brown ſpots on their inſide, and ſhew themſelves in July, but are not ſucceeded by ſeeds in England.

Culture. This plant is raiſed by ſowing the ſeeds in the ſpring, in pots filled with the richeſt light earth, and plunging them into a hotbed of tanren's bark. When the plants are fit to remove they muſt be potted ſeparately, be again plunged into the bark-bed, and be watered and kept ſhaded until they have taken root: After that they muſt have more air; and as the weather becomes warm in ſummer, muſt be regularly ſupplied with water. In the autumn they muſt be taken into the bark ſtove, and be ſhifted from time to time into larger pots, as often as they ſhall require it; affording them much free air and conſtant waterings in ſummer; and if they meet no check, they will flower the third year from ſeeds. But as the ſeeds do not ripen in England, whoever is deſirous of cultivating this plant, muſt obtain the ſeeds from abroad.

Titles. This ſpecies is titled, *Craniolaria foliis lanceolatis dentatis.* Plumier calls it, *Geſnera arboreſcens, amplo flore fimbriato et maculoſo.* It grows naturally at the Havannah, and in ſeveral of the American Iſlands.

Fruticosa.

CHAP. LXXXII.

CRATEVA, The GARLICK PEAR.

THIS genus conſiſts of the following ſpecies:

Species.

1. *Marmelos*, or Prickly *Crateva*.
2. *Tapia*, or Unarmed *Crateva*.
3. Gynandrous *Crateva*.

Marmelos, or Prickly Crateva,

1. *Marmelos*, or Prickly *Crateva*. This plant is as large as a moderate Pear-tree; and the branches are numerous, long, ſlender, and armed with ſharp thorns, growing by pairs. The leaves are trifoliate, and the folioles are oblong, ſerrated, and acute-pointed. The flowers are produced in ſmall cluſters from the ſides of the branches; they are of a greeniſh colour on their outſide, white within, and finely ſcented: In India they are ſucceeded by a large eſculent fruit, as big as an Orange, which is uſed there in deſerts. The pulp is of a yellowiſh colour, and of an agreeable flavour, which is heightened by a proper mixture of ſugar and orange.

Tapia, or Unarmed Crateva,

2. *Tapia*, or Unarmed *Crateva*. The trunk of this plant is large, branching, covered with a dark-brown bark, and grows to twenty or thirty feet high; the branches having no thorns. The leaves are trifoliate; the middle foliole being large and oval, and the ſide ones narrow, entire, and pointed. They are all ſmooth, of a light green colour on their upper ſide, but paler underneath, and grow on longiſh footſtalks. The flowers are produced from the ends and ſides of the branches on long footſtalks; they are of a yellowiſh colour, having purple ſtamina, and are ſucceeded by a large, eſculent fruit, as big as the former. This fruit has the ſtrong ſcent of Garlick, which gave occaſion to its being called the Garlick-Pear.

and Gynandrous Crateva deſcribed.

3. Gynandrous *Crateva*. The trunk of this plant is robuſt, branching, unarmed with thorns, and grows to thirty feet high. The leaves are oval, ſmooth, of a thin conſiſtence, and entire. The flowers are produced in bunches from the ends of the branches; they are gynandrous, and the ſtamina are numerous, and of a purple colour; they are ſucceeded by a large, round, pulpy fruit, containing the ſeeds.

Culture.

All theſe plants are propagated by ſowing the ſeeds, which muſt be procured from the countries where they naturally grow, in pots filled with rich garden mould, and plunging them up to the rims in a hotbed of tanner's bark. When the plants are about four inches high, they ſhould be potted ſeparately, watered, and kept ſhaded until they have taken root. After this they muſt have more air, and in the autumn be taken into a good bark ſtove; where they ſhould conſtantly remain, giving them little water in winters, and frequent watering and much free air in ſummers.

Titles.

Marmalos.

1. The firſt ſpecies is titled, *Crateva ſpinoſa, foliis ſerratis*. Plukenet calls it, *Cucurbitifera trifolia ſpinoſa medica, fructu pulpâ cydonii æmulâ*; Caſpar Bauhine, *Cydonia exotica*; and Rumphius, *Bilanus*. It grows naturally in India.

Tapia

2. The ſecond ſpecies is titled, *Crateva inermis, foliis integerrimis: foliolis lateralibus baſi anticâ brevioribus*. In the former edition of the *Species Plantarum* it is named, *Crateva inermis*. Plukenet calls it, *Apioſcorodon ſ. arbor Americana triphyllos, allii odore, poma ferens*; Commeline, *Malus Americana trifolia, fructu pomi aurantii inſtar colorato*; and Sloane, *Anona trifolia, flore ſtramineo, fructu ſphærico ferrugineo ſcabro minore, allii odore*. It grows naturally in both the Indies.

Gynandrea.

3. The third ſpecies is titled, *Crateva inermis, foliis integerrimis, floribus gynandris*. Brown calls it, *Crateva arborea triphylla, foliis ovatis glabris, racemis terminalibus*; and Plukenet, *Arbor Americana triphylla, numeroſis ſtaminibus purpureis apicibus præditis, floris umbilicum occupantibus*. It grows naturally in Jamaica.

Claſs and Order in the Linnæan Syſtem. The characters.

Crateva is of the Claſs and Order *Dodecandria Monogynia*; and the characters are,

1. Calyx is a monophyllous, deciduous perianthium, plane at the baſe, and cut at the top into four oval, unequal, patent ſegments.

2. Corolla is four oblong petals, deflexed towards the ſame ſide, having ſlender ungues the length of the calyx, and inſerted in the diviſions of it.

3. Stamina are many ſetaceous filaments ſhorter than the corolla, and declining to the oppoſite ſide, having erect, oblong antheræ.

4. Pistillum conſiſts of an oval germen, ſitting on a long filiforme pedicle; and has no ſtyle, but a ſeſſile, capitated ſtigma.

5. Pericarpium is a large, globular, fleſhy, pedicellated berry, containing one cell.

6. Semina. The ſeeds are many, nidulant, roundiſh, and emarginated.

CHAP. LXXXIII.

CRESCENTIA, The CALABASH TREE.

THERE appears to be at preſent only one ſpecies of this genus, called, The Calabaſh Tree.

The plant deſcribed.

This plant admits of many varieties, differing in height, breadth of the leaves, colour of the flowers, and ſize of the fruit, or ſhells. The trunk is robuſt, branching, covered with a white bark; and the tree, in ſome of the varieties, grows to thirty feet high; in others not to twenty. The leaves of ſome of the varieties are ſpear-ſhaped, and narrowed at both ends; whilſt others are broad, and nearly oval. The flowers of all the ſorts are produced from the trunk and large branches, on longiſh footſtalks: In ſome ſorts they are of a pale-yellow colour, in others of a deep-yellow, in ſome of a greeniſh-yellow; and they are uſually ſtriped, and ſpotted with brown. All theſe plants are followed by the fruit, which are of different forms and properties in the different kinds. The wood of all the ſorts is very hard and white, and uſeful for many conveniencies of life. The ſhells ſerve for many purpoſes; they are uſed as drinking veſſels, the largeſt containing near four pints, and are often tipped with ſilver, and made to anſwer the purpoſes of our tankards, or china quarts; whilſt the ſmaller kinds are uſed for leſſer drinking cups, punch-ladles, chocolate-cups, &c. They are all covered with a greeniſh-yellow-coloured ſkin when the fruit is ripe, which contains the ſeeds, ſurrounded by a ſour, ſoft, yellowiſh pulp.

Culture. All theſe ſorts are propagated by ſeeds, which muſt be procured from the countries where they naturally grow. They will keep a conſiderable time in the ſhells; ſo that if the fruit is full ripe, there will be little difficulty of obtaining good ſeeds from abroad. They muſt be ſown in pots filled with good, light, ſandy earth, and then be plunged into a hotbed of tanner's bark. The uſual care neceſſary for tender plants muſt accompany them until they are three inches high, when they muſt be potted ſeparately, and again plunged into a good hotbed. Here they muſt be duly watered and kept ſhaded until they have taken root; and afterwards muſt have more air, as the weather will permit. In the autumn they muſt be taken into a good bark ſtove, where they muſt conſtantly remain; ſhifting them from time to time into larger pots, as often as they ſhall require it, giving them little water, and keeping them very warm in winter; but affording them conſtant waterings, and plenty of free air in hot weather in ſummer.

Titles. Cujete

This being the only ſpecies which conſtitutes the genus, it is named ſimply, *Creſcentia*. In the *Hort. Cliff.* it is termed, *Creſcentia foliis lanceolatis utrinque attenuatis*. Commeline calls it, *Arbor Americana cucurbitifera, folio longo mucronato, fructu oblongo*; Plumier, *Cujete foliis oblongis & anguſtis, magno fructu ovato*; alſo, *Cujete anguſtifolia, fructu minore globoſo aut ovato*; alſo, *Cujete minima, fructu duro*; alſo, *Cujete latifolia, fructu putamine fragili*; Plukenet, *Cucurbitifera arbor, ſubrotundis foliis confertis, fructu ovali*; and Sloane, *Arbor cucurbitifera Americana, folio ſubrotundo*. It grows naturally in Jamaica and the Braſils.

Claſs and Order in the Linnæan Syſtem. *Creſcentia* is of the Claſs and Order *Didynamia Angioſpermia*; and the characters are,

The characters.

1. Calyx is a monophyllous, ſhort, deciduous perianthium, divided into two roundiſh, concave, obtuſe, equal ſegments.
2. Corolla is one unequal petal. The tube is gibbous, and crooked. The limb is erect, and cut into five unequal, ſinuated ſegments.
3. Stamina are four awl-ſhaped filaments the length of the corolla, of which two are a little ſhorter than the others, having incumbent, oblong, didymous antheræ.
4. Pistillum conſiſts of an oval, pedicellated germen, a filiforme ſtyle the length of the corolla, and a capitated ſtigma.
5. Pericarpium is an hard, oval berry, containing one cell.
6. Semina. The ſeeds are many, nearly heart-ſhaped, and nidulant.

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CHAP. LXXXIV.

CRINUM, ASPHODEL LILY.

Species. IN our ſtoves are found two curious ſpecies of this genus, called,

1. Ceylon Aſphodel Lily.
2. American Aſphodel Lily.

Ceylon 1. Ceylon Aſphodel Lily. The root of this plant is a large bulb, ſending out many thick fibres, at the ends of which freſh bulbs are formed. The leaves are very long, carinated, obtuſe, of a deep-green colour, cloſely ſurround each other at their baſe, but afterwards ſpread themſelves in every direction. The ſtalk is thick, ſucculent, hollow, ſlightly compreſſed on each ſide, of a deep-green colour, and grows to two or three feet high. The flowers are produced in large umbels from the tops of the ſtalks; they have very long tubes, (the ſegments alſo at the top being long and reflexed) and are finely ſcented; they appear at different times of the year, and are ſucceeded by large, ſuboval, three-cornered capſules, which produce bulbs in one or two of the cells, which come to maturity here, and which if planted will grow, and become good plants.

and American Aſphodel Lily deſcribed. 2. American Aſphodel Lily. The root of this plant is bulbous, thick, fleſhy, and ſends out many thick, fleſhy fibres from the baſe. The leaves are broad, flat, and embrace each other at their baſe. The ſtalk is thick, tender, round, hollow, compreſſed, and grows to about two feet high. The flowers are produced from the tops of the ſtalks in large umbels; they are of a white colour, finely ſcented, and appear in all ſeaſons of the year.

Culture. Theſe ſorts are propagated by parting of the roots, or planting the bulbs from the capſules. The off-ſets and bulbs muſt be planted in pots filled with freſh, light, rich earth, and the pots plunged into the bark-bed in the ſtove. Here they muſt be frequently watered, and they will ſoon ſhew good ſigns of growth. The ſtrong off-ſets will in a little time produce flowers, which being finely ſcented, and appearing at all times of the year, makes them highly valuable.

Titles. Aſiaticum.

1. The Ceylon Aſphodel Lily is titled, *Crinum foliis carinatis*. Herman calls it, *Lilium Zeylanicum bulbiferum & umbelliferum*; and Rumphius, *Radix toxicaria*. It grows naturally in both the Indies.

Americanum.

2. American Aſphodel Lily is titled, *Crinum corollarum apicibus introrſum unguiculatis*. In the *Hort. Cliff.* it is named ſimply, *Crinum*. Commeline calls it, *Lilio-Aſphodelus Americanus ſempervirens maximus, polyanthus albus*; alſo, *Lilio-Aſphodelus Americanus ſempervirens minor albus*. It grows naturally in America.

CHAP. LXXXV.

CROTALARIA.

THE ſpecies which merit a place in the ſtove are,

Species. 1. Hairy Æthiopian *Crotalaria.*
2. Shrubby Chineſe *Crotalaria.*
3. *Amplexicaule Crotalaria.*

Hairy Æthiopian, 1. Hairy Æthiopian *Crotalaria.* The ſtalk of this plant is ſhrubby, branching, and about four feet high. The leaves are ſimple, oval, acute, hairy, and ſit cloſe, having no footſtalks. The flowers are produced from the ſides of the upper parts of the branches, on ſhort footſtalks; their colour is blue; they come out in June and July, and the ſeeds ripen in the autumn.

Shrubby Chineſe, 2. Shrubby Chineſe *Crotalaria.* The ſtalk of this plant is woody, and ſends forth ſeveral taper branches, which are covered with a whitiſh down. The leaves are ſimple, oval, obtuſe, have very ſhort footſtalks, and are ſlightly hairy on both ſides. The flowers grow in looſe ſpikes, at the ends of the branches; their colour is yellow, having a ſtriped vexillum; they come out in June and July, and ſometimes their ſeeds ripen in the autumn.

And Amplexicaule Crotalaria deſcribed. 3. *Amplexicaule Crotalaria.* The ſtalks of this plant are woody, branching, and four or five feet high. The leaves are roundiſh, heart-ſhaped, grow alternately, and embrace the ſtalk with their baſe. The flowers come out from the upper parts of the ſtalks, on ſhort footſtalks. The time of their appearance is June and July, and the ſeeds ripen in September.

Culture. All theſe plants are raiſed by ſowing the ſeeds, in ſmall pots filled with light, rich earth, in the ſpring. The pots muſt be then plunged up to the rims in the mould of a good hotbed. When they come up, the weakeſt muſt be drawn out, leaving one plant only in a pot; and when they are about three inches high, they muſt be ſhifted into larger pots. In doing of this the greateſt caution muſt be uſed not to diſturb the roots, which would greatly retard the growth of the plants; but turn the mould fairly out into a larger pot, having mould at the bottom, and carefully filling up the ſides with the like kind of light earth. This being done, they ſhould be received by an hotbed of tanner's bark got in readineſs for the purpoſe: Here they muſt have frequent waterings; air on all favourable occaſions, and muſt be ſhaded from the violence of the ſun during the heat of the day. From this bed they muſt be removed into the temperate ſtove, which will afford them a proper heat during the winter months. If the plants have met with no check during their progreſs, you may expect them to flower in June or July, and ripen their ſeeds in autumn.

Titles; 1. Hairy Æthiopian *Crotalaria* is titled, *Crotalaria foliis ſimplicibus ovatis acutis villoſis ſeſſilibus, floribus ſubſeſſilibus.* It grows naturally at the Cape of Good Hope. Imbricata.

2. Shrubby Chineſe *Crotalaria* is titled, *Crotalaria foliis ſimplicibus ovatis ſubpetiolatis, ſtipulis minutiſſimis.* It is a native of China. Chinensis.

3. *Amplexicaule Crotalaria* is titled, *Crotalaria foliis caulinis amplexicaulibus cordatis alternis, floribus oppoſitis reniformibus.* It grows naturally in Æthiopia. Amplexi=caulis.

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CHAP. LXXXVI.

CROTON.

Species. THERE are eight ſpecies of this genus which require their ſtation in the ſtove, viz.

1. Sebiferous *Croton.*
2. *Tiglium Croton.*
3. Lucid *Croton.*
4. Lacciferous *Croton.*
5. Yellow *Croton.*
6. Dwarf *Croton.*
7. Roſemary-leaved *Croton,* or *Caſcarilla.*
8. Smooth Jamaica *Croton.*

Sebiferous, 1. Sebiferous *Croton.* The ſtalks of this plant are woody, irregularly branching, and ſix or eight feet high. The leaves are rhomboidal, rounded, ſmooth, undivided, and each of them has two glands at the baſe. The flowers are produced in ſhort ſpikes from the ſides of the branches; they are ſmall, of a whitiſh-green colour, come out in July, and the female flowers are ſucceeded by three-lobed capſules, containing three ſeeds.

and Tiglium, Croton deſcribed. 2. *Tiglium Croton.* This plant riſes with a thick branching ſtem to the height of fifteen or twenty feet. The leaves are oval, ſmooth, ſharp-pointed, ſerrated, and of a lucid green colour. The flowers come out from the ſides of the branches in ſhort ſpikes; they are ſmall, of a whitiſh-green colour, and the female flowers are ſucceeded by a ſmooth fruit, having three cells, and containing three ſeeds.

Lucid, 3. Lucid *Croton.* The ſtalk of this plant is woody, and ſix or eight feet high. The leaves are oblong, oval, ſlightly ſerrated, ſmooth, of a lucid green colour, and for the moſt part grow oppoſite, though ſometimes three grow together at the joints. The flowers are produced in ſpikes from the ends of the branches. The female flowers are of an herbaceous colour, and are ſucceeded by roundiſh capſules, containing the ſeeds.

Lacciferous, 4. Lacciferous *Croton.* The ſtalk of this plant is woody, branching, prickly, aromatic, and when broken emits a milky juice. The leaves are oval, hairy, downy, ſlightly ſerrated, grow on ſhort footſtalks, and are finely ſcented. The flowers are produced in ſpikes from the ſides and ends of the branches, but are ſmall, herbaceous, and of little beauty.

and Yellow Croton deſcribed, 5. Yellow *Croton.* This plant hath a yellow, ſhrubby, hairy, downy, branching ſtalk, about two or three feet high. The leaves are heart-ſhaped, oblong, undivided, and very downy on both ſides. The flowers grow in ſhort ſpikes from the upper parts of the branches; they are of a greeniſh-yellow colour, and the females are ſucceeded by three cellular capſules, containing in each cell one large, oval ſeed.

Dwarf, 6. Dwarf *Croton.* The ſtalks of this plant are ligneous, put forth a few ſlender, weak, ſmooth branches, and grow to about two feet and an half high. The leaves are heart-ſhaped, undivided, ciliated, rough, hairy, pointed, and downy underneath. The flowers are produced from the upper parts of the branches, but like the others are ſmall, and of little figure.

Roſemary-leaved Croton, or Caſcarilla, 7. Roſemary-leaved *Croton,* or *Caſcarilla.* The ſtalks of this plant are erect, woody, ſmooth, and ſend forth many branches, ten or twelve feet high, and covered with a yellowiſh bark. The leaves are ſpear-ſhaped, narrow, pointed, ſmooth, and of a light-green colour on their upper ſurface, but downy underneath; they grow alternately on long footſtalks, and when bruiſed emit an agreeable odour. The flowers are produced in long, looſe ſpikes from the ſides of the branches, are of a whitiſh-green colour, and very frequently are ſucceeded by white, three-lobed capſules containing the ſeeds, which are black when ripe.

and Smooth Jamaica Croton, deſcribed. 8. Smooth Jamaica *Croton.* The ſtalk of this plant is woody, ſmooth, and branching. The leaves are undivided, oval, obtuſe, ſmooth, of a pale-green colour on their upper-ſide, but whitiſh underneath, and grow alternately. The ſpikes come out from the wings of the leaves, and conſiſt only of a few male, and two or three female flowers placed under them: They are of a greeniſh-white colour; and theſe, together with the whole plant, when bruiſed have the ſmell of Mugwort.

Culture. The ſeeds of all theſe ſorts are to be ſown in pots in the ſpring, and the pots muſt be then plunged up to the rims in a good hotbed. The plants from this are to be removed to a ſecond hotbed, and their management is the ſame as the ſpecies of the preceding *Crotalaria*; to which, to avoid repetition, the Reader is referred. They are naturally very tender plants, and muſt be ſet in the warmeſt ſtove. During winter they (except the firſt ſort) muſt have very little water; and the ſummer following, if they have met with no check in their raiſing, they will flower, but rarely bring their ſeeds to perfection; ſo that whoever is deſirous of cultivating theſe ſorts, ſhould be careful to procure the ſeeds from the countries where the plants naturally grow.

They are of little figure from their flowers; but their leaves continuing all winter, ſome ſhewing themſelves green, ſome hoary, and others of different hues, have a pretty effect, and cauſe the plants to be very valuable.

Titles. 1. Sebiferous *Croton* is titled, *Croton foliis rhombeo-rotundatis utrinque mucronatis integerrimis glabris.* Petiver calls it, *Ricinus Chinenſis ſebifera, populi nigri folio*; Plukenet, *Euonymo affinis Sinarum, populi nigræ folio tricapſularis, granis nigris candidiſſimâ ſubſtantiâ obductis, ſebifera.* It grows naturally in China. Sebiferum.

2. *Tiglium Croton* is titled, *Croton foliis ovatis glabris acuminatis ſerratis, caule arboreo.* Burman calls it, *Ricinoides Indica, folio lucido, fructu glabro Grana Tiglia officinis dicto*; Caſpar Bauhine, *Pinus Indica, nucleo purgante*; alſo, *Lignum Moluccenſe, foliis malvæ, fructu avellanæ minore cortice molliore et nigricante, Pavana incolis*; and Rumphius, *Granum Moluccum.* It grows naturally in India. Tiglium.

3. Lucid *Croton* is titled, *Croton foliis oblongis ſubſerratis glabris oppoſitis ſubterminalibus articulorum.* Brown calls it, *Croton erectum glabrum; foliis ovatis oppoſitis vel ternatis, ſpicis terminalibus.* It inhabits Jamaica. Lucidum.

4. Lacciferous *Croton* is titled, *Croton foliis ovatis tomentoſis ſerrulatis petiolatis, calycibus tomentoſis.* Burman calls it, *Ricinoides aromatica arbor, circææ foliis hirſutis, floribus ſpicatis, major.* and Plukenet, *Ricinus aromaticus ſpicatus, folio circææ, ſpinis ad imum duplicatis armato, laccam in granis fundens.* It is a native of India. Lacciferum.

5. Yellow *Croton* is titled, *Croton foliis cordatis oblongis integerrimis utrinque tomentoſis, ramulis denſius tomentoſis.* Brown calls it, *Croton fruticuloſum et villoſum, foliis cordatis acuminatis, ramulis craſſius tomentoſis.* It grows common in Jamaica. Flavens.

6. Dwarf *Croton* is titled, *Croton foliis cordatis integerrimis ſubciliatis ſcabris, ſubtus tomentoſis, caule fruticoſo.* Brown calls it, *Croton fruticoſum minus, foliis villoſis cordatis acuminatis, ramulis gracilibus glabris.* It grows naturally in Jamaica. Humile.

7. Roſemary-leaved *Croton,* or *Caſcarilla,* is titled, *Croton foliis lanceolatis acutis integerrimis petiolatis ſubtus tomentoſis, caule arboreo.* Brown calls it, *Croton erectum glabrum foliis longis anguſtis ſubtus tomentoſis margine reflexis*; Cateſby, *Ricinoides æleagni folio,* and Sloane, *Ricino affinis odorifera fruticoſa major, roſmarini folio, fructu tricocco albido.* It is a native of America. Cascarilla.

8. Smooth Jamaica *Croton* is titled, *Croton foliis ovatis obtuſiuſculis integerrimis levibus, fructu pedunculatio.* Brown calls it, *Croton fruticoſum, foliis ſubrotundo-ovatis ſubtus ſubincanis alternis, ſpicillis axillaribus*; and Sloane, *Mali folio arbor artemiſiæ odore et flore.* It grows common in Jamaica. Glabellum.

CHAP. LXXXVI.

CUPANIA.

THIS genus at preſent conſiſts only of one ſpecies, called, *Cupania.*

The plant deſcribed. The ſtalks of this plant are woody, and divided into many ligneous branches, which are covered with a ſoft, pale bark. The leaves are oval, oblong, obtuſe, indented, ſerrated, have ſeveral tranſverſe veins on their under-ſide, and grow alternately. The flowers are produced in bunches at the ends and ſides of the branches, and are followed by ſoft, coriaceous capſules containing the ſeeds.

Culture. This plant is propagated by ſeeds procured from abroad. They muſt be ſown on a hotbed in the ſpring; and when the plants are four inches high, they muſt be potted ſeparately, and plunged into a hotbed of tanner's bark. Here the uſual care of watering and keeping them from the ſun, muſt be obſerved at firſt; they muſt then be uſed gradually to bear a large ſhare of air, and in the autumn be taken into a good bark ſtove, where they muſt conſtantly remain under the care and management of tender plants.

Titles. Americana.

There being no other ſpecies belonging to this genus, it is named ſimply, *Cupania*. Plumier calls it, *Cupania caſtaneæ folio, fructu ſericeo et ramoſo*. It grows naturally in the warmer parts of America.

Claſs and Order in the Linnæan Syſtem. The characters

Cupania is of the Claſs and Order *Pentandria Monogynia*; and the characters are,

1. Calyx is a plane, permanent perianthium, compoſed of three oval, acute leaves, exceeding the petals in ſize.

2. Corolla conſiſts of five orbicular, patent petals, ſmaller than the calyx.

3. Stamina are five awl-ſhaped filaments the length of the corolla, having roundiſh antheræ.

4. Pistillum conſiſts of an oval germen, and a ſmall, trifid ſtyle, with obtuſe ſtigmas.

5. Pericarpium is a coriaceous, turbinated, oval capſule, formed of three valves, and containing one cell.

6. Semina. The ſeeds are ſix, and roundiſh.

CHAP. LXXXVII.

CURCUMA, TURMERICK.

Species.

THERE are two ſpecies of this genus:
1. Round Turmerick.
2. Long Turmerick.

Round

1. Round Turmerick. The root of this plant is thick, fleſhy, jointed, creeping, rough on the ſurface, yellow within, and of an agreeable aromatic odour. The leaves are ſpear-ſhaped, oval, pointed at each end, have a few lateral nerves, are of a firm contexture, a good green colour, and grow to about a foot high. The ſtalks are tender, round, ſucculent, and grow to a foot high. The flowers are produced in ſpikes from the tops of the ſtalks; they are of a yellow colour, and appear in Auguſt, but drop off, without being ſucceeded by ſeeds in England.

and Long Turmerick deſcribed.

2. Long Turmerick. The root of this plant is thick, long, fleſhy, knotted, creeping, and of a deep yellow colour. The leaves are ſpear-ſhaped, large, pointed, have numerous nerves diverging from the midrib to the ſides, and are of a ſea-green colour. The ſtalks are round, thick, tender, ſucculent, and about a foot high. The flowers are produced from the tops of the ſtalks in ſpikes; they are of a yellow colour, inclining to red or purple, and uſually appear in Auguſt; but they are not ſucceeded by ſeeds in England.

Their Medicinal Properties.

The Indians are fond of Turmerick in their ſoups and other diſhes. It is ſold in our ſhops for medicinal purpoſes, being aperient, emmenagogue, and particularly famous for the cure of the jaundice. The dyers alſo uſe it for dying of yellow.

Culture.

Theſe plants are propagated like Ginger, by parting the roots, early in the ſpring, before the leaves ariſe, and planting them in pots filled with the richeſt garden mould. They muſt be kept conſtantly in the bark bed of a good ſtove, and muſt have frequent waterings, and much free air, when growing in ſummer; and but little or no water in winter, after their leaves and ſtalks are decayed, and the roots have commenced an inactive ſtate.

Titles. Rotunda.

1. The firſt ſpecies is titled, *Curcuma foliis lanceolato-ovatis: nervis lateralibus rariſſimis*. Van Royen calls it, *Curcuma foliis ovatis utrinque acuminatis: nervis lateralibus pauciſſimis:* and Rumphius, ſimply, *Curcuma*. It grows naturally in India.

Longa.

2. The ſecond ſpecies is titled, *Curcuma foliis lanceolatis: nervis lateralibus numeroſiſſimis*. Van Royen calls it, *Curcuma foliis lanceolatis utrinque acuminatis: nervis lateralibus numeroſiſſimis*; and Herman, *Curcuma radice longâ*. It grows naturally in India.

Claſs and Order in the Linnæan Syſtem. The characters.

Curcuma is of the Claſs and Order *Monandria Monogynia*; and the characters are,

1. Calyx is an obſolete perianthium ſituated above the germen.

2. Corolla. The tube of the petal is narrow. The limb is divided into three ſpear-ſhaped, ſpreading ſegments, one ſinus being more open than the other.

The nectarium is compoſed of one leaf, is oval, pointed, larger than the ſegments of the petal, and inſerted in the larger opening of the petal.

3. Stamina are five filaments, four of which are erect, narrow, caſtrated, and conſequently of no uſe in the office of generation; but the fifth, which is placed within the nectarium, is narrow, ſhaped like a petal, bifid at the top, and furniſhed with a proper anthera.

4. Pistillum conſiſts of a roundiſh germen ſituated below the calyx, a ſtyle the length of the ſtamina, and a ſimple, uncinated ſtigma.

5. Pericarpium is a roundiſh capſule, formed of three valves, and containing three cells.

6. Semina. The ſeeds are many.

CHAP. LXXXVIII.

CYNANCHUM.

THERE is one ſpecies of this genus which requires its ſituation in the moſt temperate ſtove, called, Citron-leaved *Periploca.*

The plant deſcribed. The ſtalks of this plant are ligneous; their lower parts are covered with a thick, fungous, cloven, cork-like bark, but the upper part with ſmall, ſtinging hairs; and they will wind about any thing that is near them to the height of twenty feet, or more. The leaves are oval, heart-ſhaped, and grow oppoſite by pairs on long footſtalks. The flowers come out from the wings of the leaves in ſmall bunches; they are of a yellow colour, moderately large, ſtar-ſhaped, and are ſucceeded by long, ſwelling follicules, containing the ſeeds, crowned with down.

Variety. There is a variety of this plant with ſmooth, oblong leaves, and flowers of a greeniſh-yellow colour.

Culture. They are propagated by laying down the ſtalks, as they ſhoot, in pots filled with light, ſandy, freſh earth. In about three months they will have ſtruck root, and each ſhoot will become a growing plant in the pot in which it was layered; or they may be removed into others of a more convenient ſize, if neceſſary. When they are removed, they ſhould be plunged into the bark-bed, be ſhaded, and now and then watered until they have taken root. They muſt conſtantly remain in the ſtove; for tho' they thrive better in a temperate one than in a greater degree of heat, they do not do well abroad in England, even in our hotteſt months. Nevertheleſs, they muſt have plenty of air in the ſtove in ſummer, and frequent waterings; but in winter very little water muſt be allowed them, as they abound with a milky juice; and to plants of this nature over-watering in winter is very prejudicial.

Titles. This ſpecies is titled, *Cynanchum caule volubili fruticoſo, infernè ſuberoſo fiſſo.* Plumier calls it, *Periploca ſcandens, folio citrei, fructu maximo*; Moriſon, *Apocynum ſcandens Virginianum rugoſum, pullis amplis floribus, capſulis alatis*; and Herman, *Apocynum ſcandens fruticoſum, fungoſo cortice, Surinamenſe.* It grows naturally in Jamaica and other parts of America.

Hirtum.

CHAP. LXXXIX.

CYTISUS, BASE TREE TREFOIL.

THERE is one ſpecies of this genus of a very tender nature, called, Indian *Cytiſus.*

The plant deſcribed. It is a branching ſhrub, about eight or ten feet high. The leaves are trifoliate; the folioles are ſpear-ſhaped, and downy; and the two ſide ones grow cloſe to the main footſtalk; whilſt the middle one is extended further on its own ſeparate pedicle. The flowers come out from the ſides of the branches for the moſt part in cluſters, though ſometimes they are found ſingly; they are moderately large, of a deep-yellow colour, and are ſucceeded by long, roundiſh, contorted pods, full of kidney-ſhaped ſeeds.

In America theſe ſeeds are deemed admirable food for pigeons. Hence the name Pigeon Pea is in general uſe for this plant.

Culture. This ſpecies is raiſed by ſowing the ſeeds on a hotbed in the ſpring. When the plants are about four inches high, each ſhould be ſet in a ſeparate ſmall pot, which ſhould be plunged up to the rims in the mould of a ſecond hotbed. They ſhould be watered and ſhaded until they have taken root; and when the heat of the bed is abated, they ſhould have a third hotbed. By this time they will require to be ſhifted into larger pots; and in doing of this, great care muſt be taken not to diſturb the root, as it will retard the progreſs of the plant. In this third hotbed they may remain all ſummer, giving them frequent waterings, plenty of air, and raiſing the glaſſes as they advance in height. By the end of ſummer you will find your plants to be grown to a yard or more in height, when they ſhould be removed into the moderate bark ſtove; and the ſummer following they will flower, and perfect their ſeeds. In winter little water muſt be allowed theſe plants; in ſummer watering muſt be duly attended to, and a greater quantity of air granted them, as the ſeaſon is more or leſs hot or cold.

Titles. This ſpecies is titled, *Cytiſus racemis erectis, foliolis ſublanceolatis tomentoſis: intermedio longiùs petiolato.* In the *Hort. Cliff.* it is termed, *Cytiſus foliolis ovato-lanceolatis: intermedio petiolato, pedunculo ex alis multifloro.* Burman calls it, *Cytiſus folio molli incano, ſiliquis orobi contortis & acutis*; Plumier, *Cytiſus fruteſcens*; Sloane, *Laburnum humilius, ſiliquâ inter grana & grana junctâ, ſemine eſculento*; and Plukenet, *Phaſeolus erectus incanus, ſiliquis toroſis.* It grows naturally in India.

Cajan.

CHAP.

CHAP. XC.

DALECHAMPIA.

THIS genus at preſent conſiſts only of one ſpecies, called, *Dalechampia.*

The plant deſcribed. The root of this plant conſiſts of many ſlender, ſpreading fibres. The ſtalks are ſlender, weak grow to eight or ten feet high, and twiſt about, neighbouring trees for ſupport. The leaves are cut into three lobes, are ſmooth, and grow ſingly at the joints. The flowers come out in ſmall cluſters from the ſides of the ſtalks; they are of a yellowiſh-green colour, and are frequently followed by ripe ſeeds in England.

Culture. This plant is propagated by ſowing the ſeeds on a hotbed early in the ſpring. When the plants come up, the uſual care due to tender plants muſt accompany them until they are four inches high, when they ſhould be potted ſeparately, and plunged into a hotbed of tanner's bark. Here they muſt be ſhaded until they have taken root, and water all along, and plenty of free air, muſt be allowed them all the ſummer. When the roots have filled the pots, they ſhould be ſhifted into larger, and plunged into the bark-bed of a good ſtove; where they ſhould conſtantly remain, affording them proper ſtakes to twiſt about, keeping them warm in winter, and giving them frequent waterings, and much free air in hot weather in ſummer. They are of ſhort duration, ſeldom laſting longer than three years; ſo that, in order to continue the kind, ſeeds ſhould be ſaved, and freſh plants at proper intervals raiſed.

Titles. Scandens. It being the only ſpecies of which this genus at preſent conſiſts, it is named ſimply, *Dalechampia.* Plumier calls it, *Dalechampia ſcandens, lupuli foliis, fructu hiſpido tricocco*; alſo, *Lupulus folio trifido, fructu tricocco hiſpido*; and Boerhaave, *Convolvulo-tithymalus.* It grows naturally in America.

Claſs and Order in the Linnæan Syſtem. *Dalechampia* is of the Claſs and Order *Monoecia Monadelphia*; and the characters are,

The characters.

I. Male flowers.

1. Calyx. The general involucrum is divided into four parts.

The perianthium is compoſed of ſix oval, reflexed leaves.

2. Corolla. There are no petals; but a broad nectarium, compoſed of many plane, oval lamellæ.

3. Stamina are many filaments, joined in a column, the length of the calyx, having roundiſh, four-furrowed antheræ.

II. Females.

1. Calyx. The general involucrum is compoſed of three roundiſh, erect, permanent leaves.

The perianthium conſiſts of ten ſpear-ſhaped, ſerrated, connivent, permanent leaves.

2. Corolla. There is none.

3. Pistillum conſiſts of a roundiſh, triſulcated germen ſhorter than the calyx, a long, filiforme ſtyle, and a capitated ſtigma.

4. Pericarpium is a roundiſh, tricoccous capſule, formed of three valves, and containing three cells.

5. Semina. The ſeeds are ſingle, and almoſt globular.

CHAP. XCI.

DATURA, THORN APPLE.

THIS genus affords us one beautiful ſpecies for the ſtove, called, the Tree Thorn Apple.

The plant deſcribed. This plant riſes with a woody, branching ſtalk to the height of ten or twelve feet. The leaves are large, oblong, entire, downy, and oblique to the footſtalks, which are long. The flowers come out from the diviſions of the branches, having a long, narrow tube, which expands itſelf very broad at the brim; their colour is white, with ſome ſtripes of yellow on their outſide; they are extremely fragrant, and are ſucceeded by ſmooth, roundiſh, nutant capſules, containing the ſeeds.

Culture. This plant is propagated from ſeeds, which muſt be procured from the countries where they naturally grow. They muſt be thinly ſown in pots filled with rich, freſh earth, and the pots muſt be plunged up to the rims in a hotbed of tanner's bark. This will ſoon bring the plants up; and when they are grown to about four inches high, each plant ſhould be carefully ſet in its own ſeparate pot, which ſhould then be plunged up to the rims as before. Here they muſt be ſhaded and watered, and they will ſoon take root. In ſummer, when the weather is hot, they muſt have much air, and frequent waterings. In the autumn they muſt be removed into the temperate ſtove, and undergo the ſame treatment as other tender plants.

Titles. Arborea. The Tree Thorn Apple is titled, *Datura pericarpiis inermibus nutantibus, caule arboreo.* Fewil calls it, *Stramonoides arboreum, oblongo & integro folio, fructu lævi.* It grows naturally in Peru.

CHAP. XCII.

DIOSCOREA.

OF this genus are,

Species.

1. Cultivated *Dioſcorea.*
2. Winged *Dioſcorea.*
3. Bulbiferous *Dioſcorea.*
4. Aculeated *Dioſcorea.*
5. Five-leaved *Dioſcorea.*
6. Three-leaved *Dioſcorea.*
7. Oppoſite-leaved *Dioſcorea.*

Cultivated Dioſcorea deſcribed. 1. Cultivated *Dioſcorea.* The root of this plant is very large, tuberous, mealy, and eſculent. The ſtalks are ſlender, ſmooth, climbing, and, if ſupported, will riſe to near twenty feet high. The leaves are heart-ſhaped, veined, and grow alternately. The flowers come out in bunches from the ſides of the ſtalks; they are ſmall, and of a greeniſh colour; but the fruit that follows the females are large, and almoſt triangular.

Its properties. This is cultivated in India for the ſake of the roots, which are uſed there as we do Potatoes, being roaſted, boiled, and ſometimes ground into flour for making of puddings, &c.

Winged Dioſcorea deſcribed. 2. Winged *Dioſcorea.* The root of this plant alſo is eſculent, very large, of a dark-brown colour on the outſide, mealy, and white within. The ſtalks are winged, trailing, and ſtrike root as they lie on the ground. The leaves are heart-ſhaped, veined, and grow ſingly at the joints.

Its properties. This is cultivated in the Weſt-Indies for the purpoſes of the former ſpecies. They cut them, and plant them in the manner we do Potatoes; and every bit that has an eye to it will grow, and afford prodigious encreaſe.

Bulbiferous, 3. Bulbiferous *Dioſcorea.* The root of this plant is large, round, and eſculent like the former. The ſtalks are ſlender, ſmooth, lie on the ground, into which they ſtrike root, and produce freſh bulbs from the ſides. The leaves are heart-ſhaped, and ſomewhat like thoſe of Briony. The flowers come out from the ſides of the ſtalks in cluſters; they are ſmall, and of a greeniſh colour.

Aculeated, 4. Aculeated *Dioſcorea.* The root of this plant is large, thick, and irregular. The ſtalks are ſlender, prickly, lie on the ground, and ſtrike root like the former. The leaves are heart-ſhaped, and like thoſe of Black Briony. The flowers are produced in ſpikes from the ſides of the ſtalks, but are ſmall, and of little beauty.

Five-leaved, 5. Five-leaved *Dioſcorea.* The ſtalks of this plant are ſlender, weak, and prickly. The leaves are compoſed of five folioles which join at their baſe, and ſpread themſelves like the fingers of the hand. The flowers are ſmall, of a greeniſh colour, and are ſucceeded by large, oblong, triquetrous capſules, containing the ſeeds.

Three-leaved, 6. Three-leaved *Dioſcorea.* This plant differs little from the former, except that the leaves conſiſt only of three parts, whereas the other has five; and it is made a queſtion by ſome, whether or no it ought to be ranked as a diſtinct ſpecies, or a variety only of the preceding.

and Oppoſite-leaved, Dioſcorea deſcribed. 7. Oppoſite-leaved *Dioſcorea.* The ſtalks of this plant are ſlender, weak, and require ſupport. The leaves are oval, pointed, beautifully veined, and grow oppoſite to each other. The flowers are ſmall, of a greeniſh colour, and the fruit triangular.

Culture. All theſe plants are propagated by ſeeds, which muſt be procured from the places where they naturally grow; for they ſeldom flower, and perfect their ſeeds in England. The ſeeds muſt be ſown in pots filled with light, rich earth, and plunged into a hotbed of tanner's bark. When the plants are four inches high, they muſt be potted ſeparately, and plunged again into the hotbed, obſerving to water and keep them ſhaded until they have taken root. After that they muſt have more air, according to the heat of the ſeaſon; and in the autumn they ſhould be taken into a good bark ſtove, where they ſhould conſtantly remain, training them to a trellis, or proper ſticks thruſt down for their ſupport.

They are alſo propagated by layers. Theſe, if ſlightly covered with mould, will in a little time ſtrike root; and being taken off, potted, and plunged into the bark-bed, will readily grow, and ſoon commence good plants.

They are encreaſed by cuttings from the large roots, in the ſame manner the Kitchen Gardener does Potatoes. Theſe ſhould not be cut into too ſmall pieces; and if they were not cut at all, the plants would be ſtronger and better: They will grow, however, very well, if there be two or three good eyes to each bit. They muſt be then planted ſeparately in pots, which muſt be plunged into a bark bed, but muſt have very little water, as it would otherwiſe rot them before they have commenced a good growing ſtate; after which, they ſhould be treated like the ſeedlings and layers.

Theſe plants will require little water in winter, but muſt have frequent waterings, and much free air in ſummer. There is very little beauty in any of them; and they are rarely propagated, except where a general collection of plants is kept up.

Titles. 1. The firſt ſpecies is titled, *Dioſcorea foliis cordatis alternis, caule lævi tereti.* Plumier calls it, *Dioſcorea ſcandens, foliis tamni, fructu racemoſo*; and Sloane, *Volubilis nigra, folio cordato nervoſo.* It grows naturally in both the Indies. Sativa.

2. The ſecond ſpecies is titled, *Dioſcorea foliis cordatis, caule alato bulbifero.* Sloane calls it, *Volubilis rubra, caule membranulis exſtantibus alato, folio cordato nervoſo.* It grows naturally in both the Indies. Alata.

3. The third ſpecies is titled, *Dioſcorea foliis cordatis, caule lævi bulbifero.* Herman calls it, *Rhizophora Zeylanica, ſcammonii folio ſingulari, radice rotundâ*; and Plukenet, *Rhizophora Indica, bryoniæ nigræ ſimilis, ad foliorum ortum verrucoſa.* It grows naturally in both the Indies. Bulbifera.

4. The fourth ſpecies is titled, *Dioſcorea foliis cordatis, caule aculeato bulbifero.* Amman calls it, *Dioſcorea Ind. Orient. folio tamni longiore, floribus ſpicatis, ſpicis plurimis ex uno pedunculo exeuntibus, ſcapo eorum medio geniculato*; and Rheede, *Kattu-kalengu.* It grows naturally at Malabar. Aculeata

5. The fifth ſpecies is titled, *Dioſcorea foliis digitatis.* Plukenet calls it, *Ricophora pentaphyllos, caule ſpinoſo, fructu oblongo triquetro, Malabaræa*; and Rheede, *Nurem-kelengu.* It grows naturally in India. Pentaphylla.

6. The ſixth ſpecies is titled, *Dioſcorea foliis ternatis.* Rheede calls it, *Tſiageri-nuren.* It grows naturally in Malabar. Triphylla.

7. The ſeventh ſpecies is titled, *Dioſcorea foliis oppoſiti ovatis acuminatis.* Petiver calls it, Oppositifolia.

Inhame Maderaſp. foliis binis pulchrè venoſis. It grows naturally in India.

Claſs and Order in the Linnæan Syſtem.

Dioſcorea is of the Claſs and Order *Dioecia Hexandria*; and the characters are,

The characters.

I. Male.

1. Calyx is a monophyllous, bell-ſhaped perianthium, divided into ſix ſpear-ſhaped ſegments.

2. Corolla. There is none.

3. Stamina are ſix very ſhort, capillary filaments, with ſimple antheræ.

II. Female.

1. Calyx is a perianthium, as in the male.

2. Corolla. There is none.

3. Pistillum conſiſts of a ſmall, three-cornered germen, and three ſimple ſtyles, with ſimple ſtigmas.

4. Pericarpium is a large, triangular capſule, formed of three valves, and containing three cells.

5. Semina. The ſeeds are two, bordered, and compreſſed.

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CHAP. XCIII.

DODARTIA.

THERE are only two ſpecies of this genus yet known; one is an hardy Perennial for our Flower Garden; the other is a tender plant, and is called, The Indian *Dodartia.*

The plant deſcribed.

This plant hath ſeveral ſlender, roundiſh, hairy ſtalks, that divide into a few branches. The leaves are oval, hairy, obtuſely ſerrated, about an inch long, and grow on ſhort footſtalks on the branches. The flowers terminate the ſtalks in looſe ſpikes; they are of the lip kind; their colour is yellow; and they are placed oppoſite to each other on ſhort footſtalks: Each flower has an hairy, obtuſe calyx.

Culture.

This ſpecies is raiſed by ſeeds; and requires the care and management of other tender plants.

Title.

Its title is, *Dodartia foliis ovatis ſerratis villoſis.* It grows naturally in India.

Indica

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CHAP. XCIV.

DOLICHOS.

Species.

THE more laſting ſpecies of this genus are,

1. Stinging *Dolichos.*
2. Bulbous *Dolichos.*
3. Ligneous *Dolichos.*
4. Purple *Dolichos.*
5. Creeping *Dolichos.*
6. Two-flowered *Dolichos.*

Stinging,

1. Stinging *Dolichos.* The ſtalk of this plant is thick, woody, and climbs upon trees or neighbouring buſhes for ſupport. The leaves are large, broad, lobed, and armed with numerous ſharp, ſtinging hairs. The flowers are produced in bunches from the wings of the leaves; they are large, of a whitiſh colour, and are ſucceeded by very rough, jointed pods, containing the ſeeds.

Bulbous,

2. Bulbous *Dolichos.* This plant hath a thick, fleſhy root, from which ariſe ſeveral weak ſtalks, which twiſt themſelves around every thing that is near them. The leaves are ſmooth, multangular, and indented. The flowers are produced in ſmall cluſters from the ends and ſides of the ſtalks, and are ſucceeded by oblong, ſharp-pointed pods, containing the ſeeds.

Ligneous,

3. Ligneous *Dolichos.* The ſtalk of this plant is ligneous, perennial, and twining. The leaves are large, pointed, and of a good green colour. The flowers are produced in roundiſh cluſters from the wings of the leaves; they are of a reddiſh-purple colour, and are followed by very narrow pods, containing the ſeeds.

Purple,

4. Purple *Dolichos.* The ſtalk of this plant is ſmooth, winding, and of a purple colour. The leaves are nearly heart-ſhaped, ſmooth, and beautifully reticulated with purple veins on their under ſide. The flowers come out from the wings of the leaves, are large, ſpreading, and of a moſt elegant purple colour, having the carina tipped with violet; they appear great part of the autumn and winter in beauty, and are followed by large, oblong, compreſſed pods, containing the ſeeds.

Creeping,

5. Creeping *Dolichos.* The ſtalk of this plant is ſlender, creeping, and ſoon overſpreads a conſiderable ſpot. The leaves are oval, and downy. The flowers come out on ſtrong footſtalks from the wings of the leaves, and are followed by very narrow, taper pods, full of ſeeds.

and Two-flowered Dolichos deſcribed.

6. Two flowered *Dolichos.* The ſtalk of this plant is perennial, ſmooth, and tolerably firm. The leaves are pretty large, pointed, of a good green colour on their upper ſide, but veined and hoary underneath. The flowers grow two together on a footſtalk ariſing from the wings of the leaves, and are followed by erect pods, full of ſeeds.

Culture.

All theſe ſorts are eaſily propagated by layering their branches, or parting their roots; but the ſureſt way of obtaining good plants is from ſeeds. Theſe ſhould be ſown in pots filled with light earth, in the ſpring, and plunged into a moderate hotbed. When the plants are fit to remove, they muſt be potted ſeparately, and plunged into a hotbed of tanner's bark; and as they advance in height the glaſſes muſt be raiſed, and ſticks muſt be put down by the ſide of each for their ſupport. When they get too high for the frame of the bed, they muſt be taken into a pretty good bark ſtove, and managed like other tender plants.

Titles.

1. The firſt ſpecies is titled, *Dolichos volubilis, leguminibus racemoſis hirtis tranſverſim lamellatis, ſeminibus hilo cinctis.* Plukenet calls it, *Phaſeolus Americanus fruteſcens, foliis glabris, lobis pluri-*

Urens.

bus villoſis pungentibus, fructu orbiculari plano hilo nigro ambiente; Sloane, *Phaſeolus Braſilianus fruteſcens, lobis villoſis pungentibus maximis*; Plumier, *Phaſeolus hirſutus, ſiliquis articulatis*; Brown, *Zoophthalmum ſiliquis majoribus hirtis tranſversè ſulcatis, pedunculis communibus longiſſimis flexilibus*; Marcgrave, *Mucuna*; and Rheed, *Kaku valli.* It grows naturally in moſt of the warmeſt parts of America.

Bulbosus. 2. The ſecond ſpecies is titled, *Dolichos volubilis, foliis glabris multangulis dentatis.* Plukenet calls it, *Phaſeolus nervicenſis, foliis multangulis, tuberoſâ radice*; and Rumphius, *Caraca bulboſa.* It grows naturally in both the Indies.

Lignosus. 3. The third ſpecies is titled, *Dolichos volubilis, caule perenni, pedunculis capitatis, leguminibus ſtrictis linearibus.* In the *Hortus Cliffort.* it is termed, *Dolichos caule perenni lignoſo.* Rumphius calls it, *Caraca ſ. Phaſeolus perennis.* It grows naturally in India.

4. The fourth ſpecies is titled, *Dolichos volubilis, caule glabro, petiolis ſubpubeſcentibus, corollæ alis patentibus.* It is a native of both the Eaſt and Weſt Indies. Purpu=reus.

5. The fifth ſpecies is titled, *Dolichos caule repente, foliis pubeſcentibus ovatis, floribus racemoſis geminis, leguminibus linearibus teretibus.* Brown calls it, *Dolichos maritimus minor repens, pedunculis longioribus, ſiliquis polyſpermibus gracilibus teretibus.* It grows naturally in the maritime parts of Jamaica. Repens.

6. The ſixth ſpecies is titled, *Dolichos caule perenni lævi; pedunculis bifloris, leguminibus erectis.* It grows naturally in India. Biflorus.

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CHAP. XCV.

DORSTENIA, CONTRAYERVA.

Species. OF this genus are,

1. The Common Contrayerva Plant.
2. Houſtoun's Contrayerva.
3. *Drakena.*

Common 1. Common Contrayerva. The root of this plant is thick, knotty, brown without, pale within, of a warm, acrid, bitteriſh-ſweetiſh taſte, and of an aromatic ſmell. The radical leaves (for there are no others) are cut almoſt to the midrib, palmated, ſerrated, and grow on reddiſh footſtalks to four or five inches long. The ſtalk ariſes among the leaves, and grows to be ſix or ſeven inches high, ſupporting at the top the flowers, which are very ſmall, numerous, of a greeniſh colour, and ſituated on a large, angular receptacle.

and Houſtoun's Contrayerva deſcribed. 2. Houſtoun's Contrayerva. The root of this plant is very much like the former in ſhape and quality. The leaves are heart-ſhaped, angular, pointed, of a bright green colour, and grow on long, ſlender footſtalks. The ſtalk is very thick, grows to eight or nine inches high, and the upper part is cloſely ſurrounded by the flowers.

Drakena deſcribed. 3. *Drakena.* This plant is poſſeſſed of the ſame kind of root as the others. The leaves, like the firſt ſort, are hollowed almoſt to the midrib, and palmated; but their edges are not ſerrated. The ſtalk is thick, fleſhy, and the receptacle is ſurrounded by the very numerous ſmall flowers.

Its medicinal properties. The roots of all theſe ſorts indiſcriminately go by the name Contrayerva in the ſhops. They are held pectoral, ſudorific, alexipharmic, and are much extolled for their medicinal virtues.

Culture. They are propagated by parting of the roots, which ſhould be early in the ſpring, before the leaves ariſe. Theſe ſhould be planted in pots filled with light, rich earth, and plunged into the bark bed of a temperate ſtove, where they muſt conſtantly remain; giving them frequent waterings in ſummer, when they are in a growing ſtate, and but little water in winters, whilſt their roots are inactive.

Titles. 1. The firſt ſpecies is titled, *Dorſtenia acaulis, foliis pinnatifido-palmatis ſerratis; floribus quadrangulis.* In the *Hort. Cliff.* it is termed, *Dorſtenia ſcapis radicatis.* Plumier calls it, *Dorſtenia ſphondylii folio, placentâ ovali*; Cluſius, *Drakena radix*; and Caſpar Bauhine, *Cyperus longus odoratus Peruanus.* It grows naturally in New Spain, Mexico, Peru, Tobago, &c. Contra=yerva.

2. The ſecond ſpecies is titled, *Dorſtenia acaulis, foliis cordatis angulatis acuminatis, floribus quadrangulis.* Houſtoun calls it, *Dorſtenia dentariæ radice, folio minus laciniato, placentâ quadrangulari & undulatâ.* It grows naturally at Campeachy. Houstoni.

3. The third ſpecies is titled, *Dorſtenia acaulis, foliis pinnatifido-palmatis integerrimis, floribus ovalibus.* Houſtoun calls it, *Dorſtenia dentariæ radice, ſphondylii folio, placentâ ovali.* It grows naturally at Vera Cruz. Drakena.

Claſs and Order in the Linnæan Syſtem. The characters. *Dorſtenia* is of the Claſs and Order *Tetrandria Monogynia*; and the characters are,

1. Calyx. The general receptacle is large, plane, angular, and covered with the receptacle of the numerous ſmall florets which occupy the diſk.

The proper perianthium is quadrangular, concave, immerſed in the receptacle, and grows to it.

2. Corolla. There is none.

3. Stamina are four ſhort, filiforme filaments, with roundiſh antheræ.

4. Pistillum conſiſts of a roundiſh germen, a ſimple ſtyle, and an obtuſe ſtigma.

5. Pericarpium. There is none. The common receptacle becomes fleſhy.

6. Semina. The ſeeds are ſingle, roundiſh, and acuminated.

CHAP. XCVI.

DRACONTIUM, DRAGON.

Species. THE tender ſpecies of this genus are,
1. Polyphyllous *Arum* of Surinam.
2. Prickly *Arum* of Ceylon.
3. Climbing American *Arum*.

Polyphyllous Arum of Surinam, 1. Polyphyllous *Arum* of Surinam. The root of this plant is thick, large, knotted, and covered with a brown ſkin. The leaves are compoſed of many pinnatifid parts. The ſtalks are ſmooth, purple-coloured, full of protuberances, and elegantly variegated with different colours in the manner of a ſerpent's body. The ſpatha is oblong, ſwelling, and burſting longitudinally diſplays a ſhort, thick, pointed ſpadix, on which the fructifications are cloſely ranged.

Prickly Arum of Ceylon, 2. Prickly *Arum* of Ceylon. The root of this plant is oblong, thick, irregular, and full of joints. The radical leaves are arrow-ſhaped, and grow on ſtrong, prickly footſtalks, which have many protuberances of different colours. The ſtalks are poſſeſſed of the like protuberances; they are upright, ſhort, and ſupport the ſpatha, out of which iſſues the ſpadix, containing the flowers.

and Climbing American Arum deſcribed. 3. Climbing American *Arum*. The ſtalks of this plant are ſlender, jointed, and ſtrike root from the joints into almoſt any thing that is near them; into the hardeſt bark of trees, and even new as well as old walls; and will riſe in that manner to the height of thirty feet or more. The leaves are full of oblong holes, which is a ſingularity peculiar to this ſpecies alone; they are moderately large, and grow alternately on long footſtalks. The flowers come out from the tops of the ſtalks, which will be thicker in that part than any other. The ſpatha is of a whitiſh-green colour; and the flowers, which are cloſely arranged on the ſpadix, are of a whitiſh-yellow colour; they appear at uncertain times of the year, in the ſpring, the autumn, and ſometimes in the winter, and are never followed by good ſeeds in England.

Culture. This laſt ſort is propagated by planting the cuttings, or rather roots, for there will be few cuttings but what will have roots at their joints, in pots filled with light, ſandy, rubbiſhy earth. This being done, they ſhould be plunged up to the rims in the bark bed, and muſt be conſtantly watered at firſt. As they advance in height they muſt be ſupported, or if the pots are ſet near the walls, the plants will ſtrike into them, and ſupport themſelves. In ſummer they muſt have much air, and frequent waterings; but in winter they muſt have it ſparingly, and but now and then. When the plants are about ſeven feet high, they will begin to ſhew their flowers, which will be longer, the leaves alſo larger, and the whole plant more beautiful than it will ever ſhew itſelf afterwards. The cuttings of this ſort are frequently ſent from Jamaica, packed in hay boxes, in which they will keep very well, and grow, if planted as the others.

The firſt two ſorts are propagated by planting the roots in pots filled with light, freſh mould; but as the roots make little encreaſe here, they muſt be procured from the places where they naturally grow. We ſhall receive them ſafe, if they have been taken up, and planted in a box or tub of their own native earth; and as they may be ſet very cloſe in the tub, it may be made to contain a great number of plants. As ſoon as they are planted, the tub muſt be ſet in the ſhade; and while they are in their own climate they ſhould be watered twice a week. In their paſſage, the greateſt care muſt be taken to keep them from ſalt water, which will be very injurious to them, and to give them very little freſh water. When they arrive, they muſt be taken up; and each muſt be ſet in a ſeparate pot, which muſt be plunged up to the rims in the bark bed, in the warmeſt ſtove. Here they muſt be conſtantly kept, giving them little or no water in winter, but plenty of air and water twice a week in hot weather in ſummer.

Titles. 1. Polyphyllous *Arum* of Surinam is titled, *Dracontium ſcapo breviſſimo, petiolo radicato lacero, foliolis tripartitis, laciniis pinnatifidis.* Herman calls it, *Arum polyphyllum caule ſcabro punicante*; and Plukenet, *Arum polyphyllum Surinamenſe, caule atro-rubente glabro et eleganter variegato.* It grows naturally in Surinam. Polyphyllum.

2. Prickly *Arum* of Ceylon is titled, *Dracontium foliis ſagittatis, pedunculis petioliſque aculeatis.* Herman calls it, *Arum Zeylanicum ſpinoſum, ſagittæ folio*; and Ray, *Arum minus Zeylanicum, ſagittariæ folio.* It grows naturally in Ceylo Spinosum.

3. Climbing American *Arum* is titled, *Dracontium foliis pertuſis, caule ſcandente.* Plumier calls it, *Arum hederaceum, amplis foliis perforatis.* It grows naturally in moſt of the Weſt India Iſlands. Pertusum.

CHAP. XCVII.

DURANTA.

Species. THIS genus conſiſts of two ſpecies, called,
1. *Caſtorea.*
2. *Elliſea.*

1. *Caſtorea.* This ſpecies conſiſts of two very diſtant varieties, which have, for very good reaſon, until of late, been held as diſtinct ſpecies; they are called,
Prickly *Duranta.*
Duranta without Thorns.

Varieties deſcribed. The ſtalks of the Prickly *Duranta* are ligneous, trailing, and armed with hooked thorns at every joint. The leaves are oblong, ſerrated, and placed without order. The flowers are produced in long bunches from the ſides of the ſtalks; they are of a bluiſh colour, and are ſucceeded by brown berries like thoſe of the Hawthorn.

Duranta without Thorns is a branching ſhrub, grows to ſix or eight feet high, and is guarded in no part with thorns. The leaves are oval, ſpear-ſhaped, ſerrated, of a bright-green colour, and grow oppoſite by pairs. The flowers come out from the ends of the branches in long bunches; they are of a blue colour, and are ſucceeded by large, round berries, which are yellow when ripe.

Elliſea deſcribed.

2. *Elliſea*. The ſtalk of this plant is woody, and divides into many ſlender, ligneous branches, which are angular, and armed at each joint with two erect, ſlender thorns, placed oppoſite. The leaves are oval, ſerrated at the points, and grow oppoſite by pairs at the joints. The flowers come out from the ends and ſides of the branches in looſe ſpikes; they are of a white colour, and are ſucceeded by roundiſh berries, crowned by the calyx.

Culture.

Theſe are propagated by planting the cuttings, in any of the ſummer months, in pots filled with good light earth, and plunging them into a hot-bed of tanner's bark. They muſt be watered and kept ſhaded at firſt, and they will ſoon ſtrike root. When they have commenced a growing ſtate, they muſt be hardened by degrees to the open air, and may be then, if the weather is fine, ſet abroad in ſome warm, well-ſheltered place, for the remaining part of the ſummer. In the autumn, they muſt be taken into a very temperate bark ſtove, where they will ſucceed better than in a greater degree of heat; and every ſummer they may be ſet abroad for two or three months, with other tender plants.

They are alſo propagated by ſeeds. Theſe muſt be ſown in pots filled with light, rich earth, and be plunged into a hotbed of tanner's bark; and when they are fit to remove they, muſt be potted ſeparately, and managed like the cuttings.

Titles.

Plumieri

1. The firſt ſpecies is titled, *Duranta calycibus fruteſcentibus contortis*. In the former edition of the *Species Plantarum* it is named, *Duranta ſpinoſa*; alſo, *Duranta inermis*. Plumier calls it, *Caſtorea repens ſpinoſa*; and *Caſtorea racemoſa, flore cæruleo, fructu croceo*. It grows naturally in America.

Ellisia

2. The ſecond ſpecies is titled, *Duranta calycibus fruteſcentibus erectis*. In the *Amœnitates Academicæ* it is termed, *Elliſia acuta*. Brown calls it, *Elliſia fruteſcens ſpinoſa, foliis ovatis utrinque acutis ad apicem ſerratis, ſpicis alaribus*. It grows naturally in Jamaica.

Claſs and Order in the Linnæan Syſtem. The characters.

Duranta is of the Claſs and Order *Didynamia Angioſpermia*; and the characters are,

1. CALYX is a monophyllous, tubular, nearly truncated perianthium, having five indentures at the top.

2. COROLLA is one petal. The tube is longer than the calyx. The limb is patulous, rounded, nearly equal, and divided into five parts.

3. STAMINA are four filaments within the tube, of which two are longer than the others, having roundiſh antheræ.

4. PISTILLUM conſiſts of a roundiſh germen, a filiforme ſtyle the length of the ſtamina, and a thickiſh ſtigma.

5. PERICARPIUM is a roundiſh berry, covered by the calyx.

6. SEMINA. The ſeeds are four bilocular kernels.

CHAP. XCVIII.

ECHITES.

THE reſpective ſpecies of this genus go by the ſeveral names of,

Species.

1. Two-flowered *Echites*.
2. Pentangular *Echites*.
3. Erect *Echites*.
4. Toruloſe *Echites*.
5. Umbellated *Echites*.
6. Trifid *Echites*.

Two-flowered,

1. Two-flowered *Echites*. The ſtalk of this plant is woody, and divides into ſeveral weak, ſlender branches, which ſupport themſelves by neighbouring trees, and climb to a great height. The leaves are roundiſh, pointed, ſmooth, and of a good green colour. The flowers grow two together on each footſtalk, ariſing from the wings of the leaves; they are of a white colour, very beautiful, and are ſucceeded by very long follicules, containing the ſeeds.

Pentangular,

2. Pentangular *Echites*. The ſtalk of this plant is woody, and ſends out ſeveral ſlender, ligneous branches, which are weak, and unable to ſupport themſelves erect. The leaves are oboval, and acuminated. The flowers grow in bunches, the fundamental footſtalk branching into others, and thoſe into ſtill ſmaller; ſo that they form a conſiderable cluſter; and they are ſucceeded by long follicules, containing the ſeeds.

Erect,

3. Erect *Echites*. The ſtalk of this plant is woody, and ſends out ſeveral ligneous branches, which grow almoſt erect. The leaves are nearly oval, obtuſe, and are terminated with a very ſharp point. The footſtalk branches into others, in the manner of the former, ſupporting the flowers in large bunches; they are of a yellow colour; each flower ſeparately is of a conſiderable ſize; and the whole together form a moſt enchanting appearance, when in full blow.

Toruloſe,

4. Toruloſe *Echites*. The ſtalk of this plant is ligneous, ſends out many ſlender branches, which, by the aſſiſtance of neighbouring trees, or buſhes, grow to a great height. The leaves are ſpear-ſhaped, and acuminated. The flowers come out in ſmall bunches from the wings of the leaves, and are ſucceeded by very long, ſlender, toruloſe pods, containing the ſeeds.

Umbellated,

5. Umbellated *Echites*. This plant hath a thick, fleſhy root, from which ariſe ſeveral ſlender ſtalks, that twiſt about every thing that is near them, and, if properly ſupported, will arrive to a great height. The leaves are oval, obtuſe, mucronated, veined, and of a bright-green colour. The flowers come out in umbels from the upper parts of the ſtalks; they are of a greeniſh colour; and in ſome varieties their borders are large, and finely curled.

and Trifid Echites deſcribed.

6. Trifid *Echites*. The ſtalk of this plant is woody, and branching. The leaves are oval, oblong, and acuminated. The flowers grow

many together on trifid footſtalks; and are followed by very long pods, containing the ſeeds, crowned with down.

Culture. All theſe ſorts are propagated by ſowing the ſeeds on a hotbed, in the ſpring, and when the plants are fit to remove, potting them ſeparately, and plunging them into a hotbed of tanner's bark. As the plants advance in height, they muſt have proper ſticks thruſt down for their ſupport, and in the autumn muſt be taken into a good bark-ſtove, where they muſt conſtantly remain. The third ſort is tolerably firm; but the reſt being climbers, they muſt be properly ſupported, or they will over-run every thing that is near them.

Titles. 1. The firſt ſpecies is titled, *Echites pedunculis bifloris.* Plumier calls it, *Apocynum ſcandens, flore nerii albo.* It grows naturally in America. Biflora

Quinquangularis. 2. The ſecond ſpecies is titled, *Echites pedunculis racemoſis, foliis obovatis acuminatis.* It grows naturally in America.

Suberecta. 3. The third ſpecies is titled, *Echites pedunculis racemoſis, foliis ſubovatis obtuſis mucronatis.* Sloane calls it, *Apocynum erectum fruticoſum, flore luteo maximo & ſpeciociſſimo.* It grows naturally in Jamaica.

Torulosa. 4. The fourth ſpecies is titled, *Echites pedunculis ſubracemoſis, foliis lanceolatis acuminatis.* Brown calls it, *Nerium ſarmentoſum ſcandens, ramulis tenuibus, folliculis gracilibus toroſis.* It grows naturally in Jamaica.

Umbellata. 5. The fifth ſpecies is titled, *Echites pedunculis umbellatis, foliis obovatis obtuſis, caule volubili.* Plumier calls it, *Periploca alia, floribus amplis circinatis & criſpis, radice bryoniæ tuberoſâ*; Sloane, *Apocynum ſcandens majus, folio ſubrotundo*; and Brown, *Echites ſcandens; foliis ovatis nitidis venoſis, floribus herbaceis.* It grows naturally in Jamaica.

6. The ſixth ſpecies is titled, *Echites pedunculis trifidis multifloris, foliis ovato-oblongis acuminatis.* It grows naturally in America. Trifida.

Claſs and Order in the Linnæan Syſtem. The characters. *Echites* is of the Claſs and Order *Pentandria Monogynia*; and the characters are,

1. Calyx is a ſmall perianthium, divided into five acute parts.

2. Corolla is an infundibuliforme petal. The limb is plane, very ſpreading, and divided into five parts.

The nectarium conſiſts of five ſmall glands, ſtanding round the germen.

3. Stamina are five erect, ſlender filaments, with rigid, oblong, acuminated, convergent antheræ.

4. Pistillum conſiſts of two germens, a filiforme ſtyle the length of the ſtamina, and an oblong, capitated, bilobed ſtigma.

5. Pericarpium conſiſts of two very long follicules, each compoſed of one valve, and containing one cell.

6. Semina. The ſeeds are many, imbricated, and crowned with long down.

* * *

CHAP. XCIX.

EHRETIA.

Species. OF this genus are,

1. *Lauruſtinus*-leaved *Ehretia*, or Baſtard Cherry Tree.

2. Laurel leaved *Ehretia*, or American Medlar.

Lauruſtinus-leaved 1. *Lauruſtinus*-leaved *Ehretia.* This ſpecies, in the Weſt Indies, goes by the name of Baſtard Cherry Tree. It is a large growing tree, riſing with a ſtrong trunk, half a yard in diameter, which is covered with a grey-furrowed bark. The leaves reſemble thoſe of the *Lauruſtinus*, are oblong, acute-pointed, ſmooth, of a dark-green colour, and are placed alternately on ſhort footſtalks. The flowers come out from the ends of the branches in panicles; they are of a white colour, and are ſucceeded by ſmall, oval, yellow, pulpy berries, called by the Americans Baſtard Cherries.

and Laurel-leaved Ehretia deſcribed. 2. Laurel-leaved *Ehretia.* The ſtem of this plant is woody, and divides into many branches near the top. The leaves are oval, ſmooth, entire, of a ſtrong green colour, and grow alternately on ſhort footſtalks. The flowers come out in looſe bunches from the ends of the branches; they are of a white colour, and are ſucceeded by ſmall roundiſh berries, which are of a red colour when ripe. There is a variety of it with yellow fruit.

Culture. Theſe ſorts are propagated by ſowing the ſeeds in pots filled with rich, light earth, and plunging them up to the rims in a bark-bed. When the plants are fit to remove, they muſt have each a ſeparate pot, be plunged again into the bed, be watered, and kept ſhaded until they have taken root; after that they muſt have more air, and early in the autumn be taken into a warm ſtove, where they muſt meet with all the care and management of tender plants, to bring them into flower; but they ſeldom perfect their ſeeds in England.

Titles. 1. The firſt ſpecies is titled, *Ehretia foliis oblongo-ovatis integerrimis glabris, floribus paniculatis.* Brown calls it, *Ehretia arborea, foliis oblongo-ovatis alternis, racemis terminalibus*; and Sloane, *Ceraſo affinis arbor baccifera racemoſa, flore albo pentapetalo, fructu flavo monopyreno eduli dulci.* It grows naturally in Jamaica. Tinifolia.

2. The ſecond ſpecies is titled, *Ehretia foliis ovatis integerrimis lævibus floribus ſubcorymboſis, calycibus glabris.* In the *Amænitates Academicæ* it is termed, *Cordia Bourreria.* Brown calls it, *Bourreria arborea foliis ovatis alternis, racemis rarioribus terminalibus.* Commeline calls it, *Meſpilus Americana laurifolia glabra, fructu rubro mucaginoſo*; Cateſby, *Pittoniæ ſimilis laureolæ foliis, floribus albis, baccis rubris*; and Sloane, *Jaſminum periclymeni folio, flore albo, fructu flavo rotundo tetrapyreno.* It grows naturally in Jamaica. Bourreria.

Claſs and Order in the Linnæan Syſtem. The characters. *Ehretia* is of the Claſs and Order *Pentandria Monogynia*; and the characters are,

1. Calyx is a ſmall, monophyllous, bell-ſhaped, permanent perianthium, cut at the top into five obtuſe ſegments.

2. Corolla is one petal. The tube is longer than the calyx. The limb is divided into five nearly oval, plane ſegments.

3. Stamina are five awl-ſhaped, ſpreading filaments the length of the corolla, having roundiſh, incumbent antheræ.

4. Pistillum conſiſts of a roundiſh germen, a filiforme ſtyle, which is thicker near the top, and the length of the ſtamina, and an obtuſe, emarginated ſtigma.

5. Pericarpium is a roundiſh berry, containing one cell.

6. Semina. The ſeeds are four, convex on one ſide, and angular on the other.

CHAP. C.

ELÆAGNUS, WILD OLIVE.

THERE are two tender ſpecies of this genus, called,

Species.
1. Broad-leaved Wild Olive.
2. Prickly Wild Olive.

Broad-leaved Wild and Prickly Wild Olive deſcribed.

1. Broad-leaved Wild Olive. This plant grows to twelve or fourteen feet high; the young branches are round, ſmooth, and covered with a whitiſh bark. The leaves are broad, oval, ſpotted, hoary underneath, and grow on ſhort footſtalks. The flowers come out from the wings of the leaves on ſlender footſtalks; they are ſmall, of a yellowiſh colour, and are ſucceeded by oval, ſmooth fruit, about the ſize of an Olive.

2. Prickly Wild Olive. This plant grows to ten or twelve feet high; and the young ſhoots are downy, and armed with thorns, which come out from the baſe of the footſtalks of the leaves. The leaves are elliptical, downy, and grow irregularly on ſhort footſtalks. The flowers are ſmall, of a yellowiſh colour, and are ſucceeded by oval, ſmooth fruit, in ſhape of the former.

Culture. Theſe ſorts may be propagated by ſeeds, which ſhould be ſown on a hotbed, in the ſpring. When the plants are fit to remove, each ſhould be ſet in a ſeparate pot, and plunged into a ſecond hotbed. When the heat of this bed is abated, they muſt have the benefit of a third hotbed, where they may continue all ſummer, and in the autumn be removed into the temperate ſtove, and afterwards treated like other plants which require only a ſmall degree of heat.

They are alſo eaſily propagated by cuttings. Theſe ſhould be ſet in pots filled with good, light earth; and they ſhould be conſtantly ſhaded and watered until they have taken root; and when the heat of the firſt hotbed is abated, they ſhould have a ſecond to enforce their growth, otherwiſe they will not become ſo beautiful plants. In this bed they may remain all ſummer, taking the glaſſes entirely off in mild weather, and warm ſhowers; and in the autumn they may be removed into the ſtove.

Titles. 1. Broad-leaved Wild Olive is titled, *Elæagnus foliis ovatis.* Burman calls it, *Elæagnus foliis rotundis maculatis.* It grows naturally in Ceylon. Lati-folia.

2. Prickly Wild Olive is titled, *Elæagnus foliis ellipticis.* In the *Amænitates Acad.* Rauwolf calls it, *Elæagnus Matthioli incolis Seiſeſum.* It grows naturally in Egypt. Spinosa

CHAP. CI.

EPIDENDRUM, *VANILLA*, or *VANILLOE.*

The plant deſcribed. THERE are many ſpecies of this genus, which are paraſitical plants, growing on trees, in the hot parts of the world, and cannot be cultivated in our climate: Nevertheleſs, I thought it not improper to mention one, though of the like ſtamp, as its fruit is well known, and it is particularly ſerviceable in giving an agreeable flavour to Chocolate; it is, The *Vanilla*, or *Vanilloe* plant.

The ſtalk of this plant is thick, jointed, full of juice, ſtrikes root into the bark of old trees, in the manner of our Ivy, and thereby arrives to a great height. The leaves are oval, oblong, ſpear-ſhaped, ſmooth, of a ſhining-green colour, and grow on ſhort footſtalks. The flowers are produced from the wings of the leaves along the ſides of the branches; they are of a greeniſh-white or yellow colour, and are ſucceeded by very long, taper, fleſhy pods, of a fine aromatic odour when ripe. The pods are firſt green, then yellow, when they are nearly ripe, and become poſſeſſed of their fine odour; afterwards they alter to a brown, and finally to a black colour; though they are generally gathered in their yellow ſtate, in the Spaniſh Weſt Indies, for uſe.

Culture. This ſort will not live long in England, though it may be raiſed by ſeeds or cuttings. The ſeeds are extremely ſmall, and ſhould be ſown in pots filled with light, ſandy earth, mixed with a quantity of rotten ſaw duſt, pieces of tanner's bark, and old rotten wood. When they come up, they ſhould not be tranſplanted; the weakeſt only ſhould be drawn out, leaving the ſtrongeſt plant in poſſeſſion of each pot. All ſummer they muſt be kept ſhaded, but muſt have plenty of freſh air; and in the winter they muſt be plunged into the warmeſt bark ſtove, where they muſt conſtantly remain, which ſeldom laſts longer than a year or two, though managed with the greateſt caution and care.

It is alſo propagated by cuttings. Theſe muſt be procured from abroad, and ſhould be taken off immediately before the ſhip ſets ſail, and they will keep good until their arrival here. They ſhould as ſoon as poſſible be ſet in pots filled with the like kind of compoſt as above; and muſt be plunged into a hotbed of tanner's bark, where they ſhould be cloſe covered down at firſt, and frequently watered, though it muſt be but in ſmall quantities at a time. When they have commenced a growing ſtate, more air by degrees muſt be allowed them, eſpecially if the weather is hot, and they muſt be kept ſhaded; for as they grow naturally in woods on the trunks of trees, under the leafy branches, ſhade even in thoſe parts is their peculiar refreſhment. In the autumn they muſt be taken into a good bark ſtove; and though they receive the moſt tender nurſing, and moſt dexterous management, two or three years generally put a period to their exiſtence; which makes their culture not worth attempting in theſe parts, unleſs where there is a large quantity of ſtove room, and money and inclination for every ſort of experiment to be tried.

Titles.
Vanilla.

This ſpecies is titled, *Epidendrum ſcandens, foliis ovato-oblongis nervoſis ſeſſilibus caulinis, cirrhis ſpiralibus.* Brown calls it, *Epidendrum ſcandens, foliis elliptico-ovatis nitidiſſimis ſubſeſſilibus, inferioribus claviculis jugatis ſuperioribus oppoſitis*; Plumier, *Vanilla flore viridi & albo, fructu nigricante*; Plukenet, *Vanillas piperis arbori Jamaicenſis innaſcens*; Cateſby, *Volubilis ſiliquoſa, plantaginis folio*; and Caſpar Bauhine, *Lobus aromaticus ſubfuſcus terebinthi corniculis ſimilis.* It is a paraſitical plant, growing on trees in both the Eaſt and Weſt Indies.

Claſs and Order in the Linnæan Syſtem.

Epidendrum is of the Claſs and Order *Gynandria Diandria*; and the characters are,

The characters.

1. Calyx. The ſpathæ are vague. The ſpadix is ſimple. There is no perianthium.

2. Corolla conſiſts of five oblong, extremely long, patent petals.

The nectarium is turbinated, tubular at the baſe, plane on the back ſide of the petals, and has an oblique, bifid top. The upper lip is ſhort, and trifid. The lower lip is drawn out into a long point.

3. Stamina are two very ſhort filaments ſitting on the piſtil, having antheræ which are covered by the upper lip of the nectarium.

4. Pistillum conſiſts of a long, ſlender, contorted germen, ſituated under the flower, a ſhort ſtyle growing to the upper lip of the nectarium, and an obſolete ſtigma.

5. Pericarpium is a very long, taper, fleſhy pod.

5. Semina. The ſeeds are numerous, and very ſmall.

CHAP. CII.

ERYNGIUM, ERYNGO, or SEA HOLLY.

THERE is one ſpecies of this genus, which, though a native of Virginia, ſeems to thrive ill in England, unleſs its ſituation be in the ſtove; called, Stinking American *Eryngo.*

The plant deſcribed.

The radical leaves are narrow, ſword-ſhaped, half a foot or more in length, of a light-green colour, ſerrated, prickly, and of a ſtrong diſagreeable ſcent; thoſe on the ſtalks are ſmall, and cut into many parts. The ſtalks divide into many branches, and grow to about a foot and half high. The flowers are produced in ſmall heads from the ends and diviſions of the branches, ſitting cloſe, without any footſtalks; they are of a bad-white colour, appear in June and July, and the ſeeds ripen in September.

Culture.

This plant is an admirable febrifuge, which occaſions its being called the Fever-weed in the countries where it naturally grows. It is alſo of great force againſt the bite of ſerpents, and is otherwiſe much uſed in medicine in America.

It is raiſed by ſowing the ſeeds, in the ſpring, in pots filled with light, ſandy earth. The pots muſt then be plunged up to the rims in the bark-bed; and when the plants are fit to remove, each ſhould be ſet in a ſeparate pot. They muſt then be watered to ſettle the mould to the roots, and muſt be ſhaded in the heat of the day. In hot weather they muſt have plenty of air, and the repetition of watering ſhould be oftener; and in the autumn they ſhould be removed into the ſtove, and managed like other tender plants.

Titles.
Fœtidum.

This ſpecies is titled, *Eryngium foliis radicalibus ſubenſiformibus ſerratis; floralibus multifidis, caule dichotomo.* Gronovius calls it, *Eryngium foliis gladiatis utrinque laxe ſerratis, denticulis ſubulatis*; Brown, *Eryngium fœtidum foliis inferioribus anguſtis ſerratis; ſuperioribus laciniatis & aculeatis*; Herman, *Eryngium Americanum fœtidum*; and Sloane, *Eryngium, foliis anguſtis ſerratis, fœtidum.* It grows naturally in Virginia, Jamaica, Mexico, and Surinam.

CHAP. CIII.

ERYTHRINA, The CORAL TREE.

OF this genus are three celebrated trees, called,

Species.

1. Smooth-leaved Coral Tree.
2. Prickly-leaved Coral Tree.
3. Flat-podded Coral Tree.

Smooth-leaved Coral Tree deſcribed.

1. Smooth-leaved Coral Tree. The trunk of this plant is large, ſends out many ſtrong branches, which are armed with ſharp thorns, and the tree grows to twenty feet high. The leaves are trifoliate, the foliolies ſhort, nearly heart-ſhaped, ſmooth, of a deep-green colour, and the middle one is the largeſt. The flowers are produced from the ends of the branches in ſpikes; they are large, and of a fine ſcarlet colour, appear in May and June, but are not ſucceeded by pods in England.

There

Varieties. There are many varieties of this tree, differing in their height, colour of their bark, ſpikes, flowers, and ſeeds. The flowers of all, however, are extremely beautiful, and their colour in general is a fine ſcarlet; though ſome are paler, and others more inclined to a purple. The ſeeds alſo of all the kinds are very beautiful, being ſcarlet, red, or purple.

Prickly-leaved 2. Prickly-leaved Coral Tree. The trunk of this plant is large, branching, prickly, and grows to fifteen or ſixteen feet high. The leaves are trifoliate, and armed with ſhort, ſharp ſpines. The flowers are produced in ſpikes from the ends of the branches, but rarely appear in England.

and Flat-podded Coral Tree deſcribed. 3. Flat-podded Coral Tree. The leaves of this plant are oblong, and undivided. The flowers come out in ſpikes from the ends of the branches, and are ſucceeded in their native countries by flat pods, containing the ſeeds.

Culture. All theſe ſorts are propagated by ſeeds, which muſt be procured from the places where they naturally grow. The ſeeds ſhould be ſown in pots filled with light, freſh earth, and then plunged into a hotbed of tanner's bark. They readily come up when the ſeeds are good; and they muſt be uſed with all the care of tender ſeedlings, until they are three or four inches high, when they muſt be potted ſeparately, and plunged again into the bark-bed. Here they muſt be watered, and kept ſhaded until they have taken root; and after that muſt have more air, according to the warmth of the ſeaſon. In the autumn, they muſt be taken into a temperate bark ſtove, for they require only a moderate degree of artificial heat. Here they muſt from time to time be ſhifted into larger pots, as often as they ſhall require it; and they muſt be duly watered, and have abundance of freſh air, when the ſeaſon will permit it.

They are alſo propagated by cuttings. Theſe may be planted during any of the ſummer months in pots filled with light, freſh earth, and plunged into a hotbed of tanner's bark; and if they are duly watered, and kept ſhaded, they will ſoon commence a growing ſtate, when they muſt have more air by degrees. Afterwards they muſt have plenty of freſh air in hot weather, muſt be duly watered, and in the autumn be taken into the bark ſtove, and managed like the ſeedlings.

Titles. 1. Smooth-leaved Coral Tree is titled, *Erythrina foliis ternatis inermibus, caule arboreo aculeato.* Brown calls it, *Erythrina arborea ſpinoſa & non ſpinoſa, foliis rhombeis ternatis*; Caſpar Bauhine, *Ceratia ſ. ſiliqua ſylveſtris ſpinoſa arbor Indica*; Commeline, *Coral arbor Americana*; Rumphius, *Gelala litorea*; and Rheede, *Mouricou.* It grows naturally in both the Eaſt and Weſt Indies. Corallo=dendron.

2. Prickly-leaved Coral Tree is titled, *Erythrina foliis ternatis aculeatis, caule arboreo aculeato.* Rumphius calls it, *Gelala alba.* It grows naturally in India. Picta.

3. Flat-podded Coral Tree is titled, *Erythrina foliis ſimplicibus oblongis.* Plumier calls it, *Corallodendron folio ſingulari oblongo, ſiliquâ planâ.* It grows naturally in America. Planiſi=liqua.

C H A P. CIV.

EVOLVULUS.

THERE is one ſpecies of this genus worthy of a place in the ſtove, called, Money-wort *Evolvulus.*

The plant deſcribed. The ſtalk of this plant is herbaceous, tender, trailing, and ſtrikes root into the ground. The leaves are roundiſh, and in ſome meaſure reſemble thoſe of Money-wort. The flowers come out ſingly from the wings of the leaves on ſhort footſtalks; they are of a fine-blue colour, and appear great part of the ſummer, and often in winter.

Culture. This plant is eaſily propagated by cutting the ſtalks into proper lengths, and planting them in pots filled with light earth: Previous to this, the ſtalks ſhould have been laid on the ground for them to ſtrike root, and a few fibres ſhould be preſerved at the bottom of each cutting. As ſoon as they are planted they muſt be watered, and plunged into the bark-bed in the ſtove, where they muſt conſtantly remain.

It may be alſo propagated by ſeeds, which ſhould be ſown on a hotbed in the ſpring. When the plants are fit to remove they ſhould be potted ſeparately, be brought into the ſtove, and managed like the cuttings.

Titles. This ſpecies is titled, *Evolvulus foliis ſubrotundis, caule repente, floribus ſubſeſſilibus.* In the former edition of the *Species Plant.* it is termed, *Convolvulus foliis ſubrotundis, caule repente.* Sloane calls it, *Convolvulus minor repens, nummulariæ folio, flore cæruleo*; and Brown, *Convolvulus herbaceus repens, foliis ſubrotundis, floribus ſingularibus axillaribus.* It grows naturally in the meadows of Jamaica and Barbadoes. Nummu=larius

C H A P. CV.

EUPATORIUM, HEMP AGRIMONY.

Species. THE more tender ſpecies of this genus are,

1. Houſtoun's *Eupatorium.*
2. Climbing *Kleinia.*
3. Shrubby *Dalea.*
4. Ceylon *Eupatorium.*
5. Sweet-ſcented *Eupatorium.*

Houſtoun's Eupatorium deſcribed. 1. Houſtoun's *Eupatorium.* The ſtalks of this plant are weak, ſlender, twining, ſend out branches by pairs from the joints, and if ſupported will riſe to the height of eight or ten feet. The leaves are heart-ſhaped, oval, ſharp-pointed, entire, ſmooth, and of a bright green colour. The flowers are produced in long branching ſpikes from the upper parts of the plants; they are ſmall, and of a white colour, and appear uſually about July or Auguſt, but are rarely ſucceeded by ripe ſeeds in England.

Climbing Kleinia,

2. Climbing *Kleinia*. The ſtalks of this plant are ſlender, and will twiſt about any thing to the height of ſeven or eight feet. The leaves are heart-ſhaped, haſtated, angular, indented, and acute. The flowers are produced in ſpikes from the upper parts of the plant; their colour is white, and they uſually ſhew themſelves about the ſame time with the former.

Shrubby Dalea,

3. Shrubby *Dalea*. This plant riſes with an upright, ſhrubby, branching ſtalk to the height of eight or ten feet. The leaves are ſpear-ſhaped, venoſe, ſlightly ſerrated, ſmooth, and grow oppoſite to each other. The flowers come out in long, looſe ſpikes from the ends of the branches; they are of a white colour, and of a beautiful appearance, but are rarely ſucceeded by good ſeeds in England.

and Eupatorium of Ceylon deſcribed.

4. *Eupatorium* of Ceylon. The ſtalk of this plant is ſhrubby, branching, and grows to about ſix or eight feet high. The leaves are oval, haſtated, indented, eared, of a dark-green colour on their upper ſide, white underneath, and grow on ſhort footſtalks. The flowers come out in cluſters from the upper parts of the branches, and are ſmall; in one variety they are of a yellowiſh, in another of a pale-purple, and in another of a white colour. They are remarkable for the agreeable odour they continually emit, when in full blow.

Sweet-ſcented Eupatorium deſcribed.

5. Sweet-ſcented *Eupatorium*. The ſtalks of this plant are ſlender, hairy, divide into a few branches near the top, and grow to be four or five feet high. The leaves are oval, angular, indented near the baſe, pointed, hairy, and of a hoary whiteneſs underneath. The flowers are produced in leafy bunches from the ends and upper parts of the plant; they are large, of a white or purpliſh colour, and are highly eſteemed for the fine fragrance they poſſeſs.

Culture.

All theſe ſorts are propagated by layers, cuttings, or ſeeds. The layering ſhould be performed on the young ſhoots of the three laſt ſorts by making a nick or ſlit at the joint; but with reſpect to the climbers, the laying the tender ſtalks in the common mould will be ſufficient; and in about ſix months they will be fit to be taken from the old plants. They muſt have a light, ſandy, freſh earth; and when each layer is ſet in its own ſeparate pot, they muſt be plunged up to the rims in the bark-bed. Here they muſt be watered, and conſtantly ſhaded in the heat of the day, until the plants have taken freſh root; after that they ſhould have more air, and frequent waterings, eſpecially in hot weather.

They are not ſo well raiſed by cuttings, for the method of layering is by far the moſt preferable. If cuttings can be obtained, however, let them be ſet in pots filled with light, good earth; then let them be well watered, plunged up to the rims in the bark-bed, and ſhaded, and ſome of them will ſoon ſtrike root: Their after-management is ſimilar to that of the layers.

The beſt plants are always obtained by ſeeds, which muſt be procured from the places where they naturally grow. When they arrive, they ſhould be ſown in pots filled with light, rich earth; and the pots muſt be plunged up to the rims in a bark hotbed, to facilitate the growth of the ſeeds. When the plants are fit to remove, each ſhould be taken up with a ball of earth to the root, and planted in its own ſeparate pot; the pots muſt be again plunged up to the rims in a hotbed, and the plants muſt be watered and ſhaded until they have entered into a freſh growing ſtate. After this they muſt have more air and frequent waterings all ſummer; and in the autumn they muſt be removed into the temperate ſtove, and managed like other tender plants which require ſuch a ſituation.

Titles.

1. Houſtoun's *Eupatorium* is titled, *Eupatorium caule volubili, foliis ovatis integerrimis*. In Miller's Dictionary it is termed, *Eupatorium foliis cordatis acuminatis, caule volubili, floribus ſpicatis racemoſis*. Amman calls it, *Conyza Americana ſcandens, foliis ſubrotundis mucronatis, floribus ſpicatis: ſingulis quatuor floſculis conſtantibus*. It grows in La Vera Cruz.

Houstonis.

2. Climbing *Kleinia* is titled, *Eupatorium caule volubili, foliis cordato-haſtatis ſubdentatis nudis, floribus ſpicatis*. Brown calls it, *Kleinia ſcandens, foliis triangularibus angulis acutis*. It is a native of Jamaica.

Hastatum.

3. Shrubby *Dalea* is titled, *Eupatorium foliis lanceolatis venoſis obſoletè ſerratis glabris, calycibus quadrifloris, caule fruticoſo*. Brown calls it, *Dalea fruticoſa, foliis oppoſitis oblongis anguſtis ſubſerratis utrinque productis, racemis terminalibus*. It grows naturally in Jamaica.

Dalea.

4. *Eupatorium* of Ceylon is titled, *Eupatorium foliis ovato-haſtatis petiolatis dentatis*. Moriſon calls it, *Eupatorium Zeylanicum, foliis dentatis ad pediculos breves auriculatis*; Burman, *Cacalia foliis auriculatis ſerratis ſupra nigricantibus, infra lanugine albâ obductis*; and Ray, *Jacobea, ſenecionis flore, Zeylanica odorata*. It grows naturally in Ceylon.

Zeylani=cum.

5. Sweet-ſcented *Eupatorium* is titled, *Eupatorium foliis deltoidibus infernè dentatis, ſubtus tomentoſis, calycibus multifloris*. Brown calls it, *Eupatorium odoratum hirſutum, foliis ovatis acuminatis baſin verſus crenatis, floribus comoſis*; and Plukenet, *Eupatoria conyzoides, folio molli & incano, capitulis magnis, Americana*. It grows naturally in Jamaica.

Odoratum.

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CHAP. CVI.

EUPHORBIA, BURNING THORNY PLANT.

THE ſpecies which will not thrive in this climate without ſome artificial heat are,

Species.

1. The True *Euphorbium* of the Ancients.
2. Canary *Euphorbium*.
3. Officinal *Euphorbium*.
4. Oleander-leaved *Euphorbium*.
5. Climbing Indian Spurge.
6. Indian Shrubby Spurge.
7. Venice Sumach-leaved American Spurge.
8. Baſtard Spurge.

1. True *Euphorbium* of the Ancients. Of this ſpecies are two principal varieties; viz.

Varieties.

Spreading *Euphorbium* of the Ancients.
Upright *Euphorbium* of the Ancients.

Varieties deſcribed.

Spreading *Euphorbium* of the Ancients. The ſtalks of this plant are triangular, ſucculent, compreſſed, jointed, grow to ſeven or eight feet high, and ſend forth ſeveral irregular, ſpreading branches from the ſides, which are alſo angular, ſucculent, and compreſſed. The leaves are ſhort, roundiſh, and produced from the ends of the branches, but ſoon fall off. Among the leaves a few flowers make their appearance; their colour is white, having thick petals; they are of a ſhort duration, and are never ſucceeded by ripe ſeeds England.

Upright *Euphorbium* of the Ancients. The ſtalks of this plant are triangular, naked, compreſſed, ſend forth ſeveral three or four-cornered, jointed, compreſſed branches, which grow erect, and are armed with ſhort, crooked ſpines. The whole plant is deſtitute of leaves; and it is very ſeldom that it produces flowers in England.

Canary,

2. Canary *Euphorbium.* The ſtalk of this plant is very thick, ſucculent, green, quadrangular, and quinquangular; armed with black, crooked ſpines, which come out by pairs, and ſend forth many large, cornered, ſucculent, prickly branches, which diverge from the main-ſtalk, and then turn upwards in the manner of a chandelier. The whole plant is deſtitute of leaves, but the flowers make their appearance from the ends of the branches; the petals are of a thick conſiſtence, and of a white colour; and the flowers generally fall off without being ſucceeded by any fruit.

Officinal,

3. Officinal *Euphorbium.* The ſtalks of this plant are thick, roundiſh, ſucculent, having eight or ten angles while young, and ſend forth many irregular, diſtorted, prickly branches, which diverge at firſt nearly horizontally from the main-ſtalk, and then many of them turn upwards almoſt in a perpendicular direction. The flowers are of a greeniſh-white colour; they make their appearance from the upper parts of the branches; but they are ſmall, and generally fall off without being followed by any fruit.

and Oleander-leaved Euphorbium deſcribed.

4. Oleander-leaved *Euphorbium.* The ſtalk of this plant is thick, upright, firm, angular, poſſeſſed of tubercles, which are oblique to the angles, ſends forth ſeveral prickly branches near the top, and grows to be five or ſix feet high. The leaves are produced from the tubercles, and from the upper parts of the branches; they are of an oblong figure, rounded at the top, ſmooth, entire, and of a ſhining-green colour. The leaves are produced in the autumn, and fall off in the ſpring, leaving the plant entirely naked at a time when other plants are repoſſeſſing their honours. When the plant has been ſome months in this deſtitute, forlorn ſtate, the flowers, which are of a greeniſh-white colour, make their appearance from the ſides of the branches, ſitting cloſe, without any footſtalks.

Climbing Indian,

5. Climbing Indian Spurge. The ſtalks of this plant are ſlender, taper, ligneous, ſmooth, of a dark-green colour, will twiſt about any thing that is near them, and grow to the height of about ten feet; and they put out ſeveral ſlender, twining branches, which wind round the ſtalks, or any thing that is placed for their ſupport. The whole plant is deſtitute of leaves, and is hardly ever known to produce flowers in England.

Indian Shrubby,

6. Indian Shrubby Spurge. The ſtalks of this plant are thick, taper, ſucculent, woody when old, and divide into many ſmooth, jointed branches, which are of a deep-green colour, and very much diffuſed and intermixed with each other. The leaves are ſmall, are produced ſparingly from the ends of the branches, and ſoon fall off. The flowers never make their appearance in this country.

Venice Sumach-leaved American,

7. Venice Sumach-leaved American Spurge. The ſtalk of this plant is upright, ſhrubby, branching, grows to ſeven feet high, and is covered with a light-brown bark. The leaves are nearly heart-ſhaped, indented at the extremities, ſmooth, of a chearful-green colour, and grow oppoſite to each other on long footſtalks; they fall off at the approach of winter. The flowers are produced from the ends of the branches; they are of a yellow colour, ſmall, and are very rarely ſucceeded by ſeeds in England.

and Baſtard Spurge deſcribed.

8. Baſtard Spurge. Of this ſpecies there are two grand varieties, called,

Myrtle-leaved Baſtard Spurge.
Laurel-leaved Baſtard Spurge.

Myrtle-leaved Baſtard Spurge. The ſtalks of this plant are ſhrubby, ſmooth, ſucculent, and grow to be twelve feet high; but they are too weak to bear the weight of the leaves and branches without ſupport. The leaves are oval, pointed, ſucculent, ſeſſile, and are ranged alternately in two rows. The flowers come out, three or four together, from the ends of the branches; they are of a fine ſcarlet colour, and are ſucceeded by roundiſh, three-furrowed capſules, containing the ſeeds.

Laurel-leaved Baſtard Spurge. The ſtalks of this plant are thick, woody, ſucculent, and grow to be twelve feet high. The leaves are of a thick conſiſtence, oblong, oval, of a dark-green colour, and are ranged alternately in two rows. The flowers come out from the ends of the branches; they are of a deep-red colour, and are ſucceeded by roundiſh capſules, containing the ſeeds.

Medicinal Properties.

All theſe ſorts abound with an acrid, milky juice; and it is the inſpiſſated juice of theſe plants that we have imported for medicinal uſes. Linnæus ſuppoſes the third ſpecies to be the ſort which produces this famous drug, others the ſecond, and ſome contend for the firſt; but I believe that all of them, at leaſt the firſt four ſorts, are nearly of equal virtue, and that from all theſe ſorts the drug called *Euphorbium* is indiſcriminately collected in the countries where the plants naturally grow. The name *Euphorbia* has been long known in the Botanic world, and was firſt applied to the firſt deſcribed ſpecies by King Juba, the father of Ptolemy, in honour of Euphorbius his phyſician, who is ſaid to have effected great cures by virtue of this plant. Its chief uſe is in external applications, being an ingredient in divers plaiſters, tinctures, and powders, for cleanſing of ulcers, and exfoliating carious bones. It was formerly uſed internally, as a purge; but it is too violent for the purpoſe, tearing away the fine mucus of the bowels, and bringing on dyſenteries, &c. As a ſternutatory it is alſo little uſed, becauſe its acrimony is ſo intolerable, that it is dangerous any way to take it inwardly; and it muſt be with the utmoſt caution applied outwardly. It is of great uſe, however, to Farriers, who uſe it as an ingredient for raiſing of bliſters, cleanſing old ſores, &c. in diſeaſed horſes.

Culture.

All theſe ſorts are propagated by planting the cuttings in any of the ſummer months, though the beſt month is June. When the cuttings are firſt taken off, which muſt be at a joint, the milky, acrid juice begins to flow; in order to ſtop which, let ſome dry, fine mould be rubbed over the wounded parts both of the cuttings and the plants: next lay the cuttings in the ſtove for about a fortnight, when the wounded parts will be ſkinned over; and then it is that they are in a proper condition to be planted, for if they are ſet ſooner, there will be great danger of their rotting inſtead of ſtriking root. The mould in which they ſhould be planted muſt be of a ſandy, light nature, but freſh, and not too hungry. The beſt compoſt I ever knew for theſe plants was half a ſpade's depth from a ſandy heath, taken with the turf: Twelve months before you uſe it, lay it on a heap, turn it till the turf is rotten, and the whole is pulveriſed and incorporated. For want of ſuch a heath from which to procure your compoſt, as ſimilar a one as poſſible muſt be made by a proper mixture of light mould, drift or ſea-ſand. The cuttings muſt be then planted in ſmall pots filled with this light earth, and the pots muſt be plunged up to the rims in a bark-hotbed. If the weather is very hot, the plants muſt be ſhaded in the heat of the day, and about every third day ſhould have a moderate watering. When the plants have taken root, they muſt have more air, and in very hot weather alſo a due admiſſion of air ſhould be granted them every day; otherwiſe they will draw weak, and be in great danger of rotting in the winter. In the autumn they muſt be removed into the temperate ſtove; and very little water ſhould be granted them in winter, eſpecially the firſt ſort, which will effectually rot, if it is over watered. In hot weather, in the ſummer, they will require watering about three times a week, in the ſpring and autumn twice, and in winter once only. They do not all require an equal quantity of water. The more ſucculent kinds will admoniſh the intelligent Gardener to let them have it more ſparingly than the others; and as much air alſo as poſſible muſt be granted them in ſummer, for this is eſſentially neceſſary to keep them hardy, and prevent their rotting in winter, which theſe plants are very ſubject to. As they encreaſe in ſize, they muſt from time to time be ſhifted into larger pots, filled with the like kind of light earth. When any plant is wounded, and the milky juice begins to flow, it ſhould as ſoon as poſſible be cut down to the next joint, otherwiſe it will not only rot down to that part, but endanger the health of the whole plant. Theſe plants are chiefly preſerved on account of the great oddity and ſingular appearance they afford. Moſt of them were firſt introduced into Europe by the Dutch, whoſe curioſity in things of this nature is deſerving of great praiſe; but they are now grown common in our ſtoves, there being very few hot-houſes in which ſome of theſe ſpecies are not found.

Titles.

1. The *Euphorbium* of the Ancients is titled, *Euphorbia aculeata ſubnuda triangularis articulata, ramis patentibus.* Commeline calls it, *Euphorbium antiquorum verum*; alſo, *Tithymalus aizoides triangularis & quadrangularis articuloſus & ſpinoſus, ramis compreſſis.* In Miller's Dictionary it is termed, *Euphorbia aculeata nuda triangularis articulata, ramis erectis.* It grows naturally in India. Antiquorum.

2. Canary *Euphorbium* is titled, *Euphorbia aculeata nuda ſubquadrangularis, aculeis geminatis.* Commeline calls it, *Tithymalus aizoides fruticoſus Canarienſis aphyllus quadrangularis & quinquangularis, ſpinis geminis aduncis atro nitentibus armatus*; and Plukenet, *Tithymalus aizoides lactifluus ſ. Euphorbia Canarienſis quadrilatera & quinquelatera, cerei effigie.* It grows naturally in the Canary Iſlands. Canariensis.

3. Officinal *Euphorbium* is titled, *Euphorbia aculeata nuda multangularis: aculeis geminatis.* Commeline calls it, *Euphorbium cerei effigie, caulibus craſſioribus ſpinis validioribus armatum*; and Caſpar Bauhine, *Euphorbium.* It grows naturally in Æthiopia, and moſt of the warmeſt parts of Africa. Officinarum.

4. Oleander-leaved *Euphorbium* is titled, *Euphorbia aculeata ſeminuda: angulis obliquè tuberculatis.* Commeline calls it, *Tithymalus aizoides arboreſcens ſpinoſus, caudice angulari, nerii folio*; and Rumphius, *Ligularia.* It grows naturally in India. Neriifolia.

5. Climbing India Spurge is titled, *Euphorbia inermis nuda fruticoſa filiformis volubilis: cicatricibus oppoſitis.* It grows naturally in the maritime parts of Africa. Viminalis.

6. Indian Shrubby Spurge is titled, *Euphorbia inermis ſeminuda fruticoſa filiformis erecta, ramis patulis determinante confertis.* Commeline calls it, *Tithymalus Indicus fruteſcens*; Plukenet, *Tithymalus arboreſcens, caule aphyllo*; and Rumphius, *Oſſifraga lactea.* It grows naturally in India. Tirucalli.

7. Venice Sumach-leaved American Spurge is titled, *Euphorbia foliis oppoſitis ſubcordatis petiolatis emarginatis integerrimis, caule fruticoſo.* In the *Hort. Cliff.* it is termed, *Euphorbia inermis, caule fruticoſo, foliis oppoſitis ſubcordatis emarginatis, petiolis folio longioribus.* Plukenet calls it, *Tithymalus Curaſſavicus, folio cotini triphyllos, petalis florum ſerratis*; and Commeline, *Tithymalus arboreus Americanus, cotini folio.* It is a native of ſome of the Weſt Indian Iſlands. Cotinifolia.

8. Baſtard Spurge is titled, *Euphorbia inermis fruticoſa, foliis diſtichè alternis ovatis.* Hermannus calls it, *Tithymalus Curaſſavicus myrtifolius, flore coccineo mellifluo*; Commeline, *Tithymalus Curaſſavicus myrtifolius, flore papilionaceo coccineo parvo*; and Dillenius, *Tithymaloides lauro-ceraſi folio non ſerrato.* It grows naturally in many of the Weſt Indian Iſlands. Tithymaloides.

CHAP. CVII.

FICUS, The FIG-TREE.

Of this genus are the following tender ſpecies, viz.

Species.

1. Sycamore, or Mulberry-leaved Fig-tree.
2. Sacred Fig, or Indian God Tree.
3. Bengal Fig.
4. Indian Fig of Theophraſtus.
5. Racemoſe Indian Fig.
6. Spotted Indian Fig.
7. Dwarf Chineſe Fig.

Sycamore, or Mulberry-leaved Fig deſcribed.

1. Sycamore, or Mulberry-leaved Fig; it is alſo called, Pharaoh's Fig. The trunk of this plant is robuſt, branching near the top, and grows to twenty or thirty feet high. The leaves are large, roundiſh, heart-ſhaped, and entire. The fruit is like that of the cultivated Figs in our gardens; and, contrary to moſt other kinds, diſdaining the young ſhoots, burſts forth from the trunk, and larger arms of the tree. The fruit is

of little reliſh; though, I am informed, there are ſome varieties of it which by many people are adjudged excellent.

Sacred Fig, or Indian God Tree deſcribed.

2. Sacred Fig, or Indian God Tree. The trunk is robuſt, branching, and often grows to thirty or forty feet high. The leaves are heart-ſhaped, oblong, ſharp-pointed, ſmooth, entire, and grow on pretty long footſtalks. The fruit is ſmall, roundiſh, grows by twins on the young ſhoots, and is of little eſteem. This tree is held in great veneration in India; inſomuch that there it goes by the names of the Religious Tree, the Sacred Tree, and the God Tree.

Bengal Fig-tree deſcribed.

3. Bengal Fig-tree. This plant riſes with many implicated ſtalks and branches to upwards of twenty feet high. The leaves are oval, obtuſe, ſmooth, entire, and much veined underneath. The fruit grows on the young branches, is ſmall, round, and of no value. The branches of theſe trees ſtrike root from their lower parts, and form amazing ſtrong thickets, in the countries where they naturally grow.

Indian Fig of Theophraſtus deſcribed.

4. Indian Fig of Theophraſtus. The ſtem of this plant is woody, grows to thirty feet high, and divides into many branches near the top. The leaves are ſpear-ſhaped, entire, ſmooth, veined underneath, and grow on longiſh footſtalks. The fruit is about the ſize of a Pea, of a purple colour, and of no value. The branches of this plant emit roots from their lower parts, which reaching the ground, faſten themſelves, and ſoon form ſtrong thickets, in the countries where they naturally grow.

Racemoſe Indian Fig deſcribed.

5. Racemoſe Indian Fig. The ſtem of this plant is woody, robuſt, divides into many branches, and grows to be twenty or thirty feet high. The leaves are oval, entire, acute pointed, ſmooth, and of a bright-green colour. The fruit grows in cluſters on the younger branches; but it is ſmall, and of no value.

Spotted Indian,

6. Spotted Indian Fig. This plant riſes with a ſtrong, branching ſtem to upwards of twenty feet high. The leaves are large, oblong, ſharp-pointed, ſerrated, and in ſome meaſure reſemble thoſe of the Spaniſh Cheſnut. The fruit is moderately large, globular, and ſpotted, but is ſeldom eaten.

and Dwarf Chineſe Fig deſcribed.

7. Dwarf Chineſe Fig. The ſtalks of this plant are tender, lie on the ground, and ſtrike root at the joints. The leaves are oval, ſharp-pointed, entire, and of a bright-green colour. The fruit grows from the ſides of the young ſhoots; but is ſmall, and of no value.

Culture.

There are many varieties of all theſe ſpecies, differing in ſome reſpect or other; and they are all eaſily propagated by cuttings, in any of the ſummer months. The cuttings ſhould be taken off, and laid in ſome dry, airy place for two or three days, that the wounded parts may ſkin over. When this is effected, they ſhould be planted in pots filled with ſandy, undunged earth, and plunged into a hotbed of tanner's bark. Here they muſt be ſhaded, and water very ſparingly given them at firſt, otherwiſe it will cauſe them to rot; but when they are in a good growing ſtate, they muſt have ſufficient air to prevent their drawing up weak, and more water in proportion muſt be allowed them. In the autumn they ſhould be taken into a good bark ſtove; and muſt have treatment ſimilar to that afforded other tender plants.

Titles.

Sycomorus

1. The firſt ſpecies is titled, *Ficus foliis cordatis ſubrotundis integerrimis*. Caſpar Bauhine calls it, *Ficus folio mori, fructum in caudice ferens*; John Bauhine, *Syco-morus*; and Cammerarius, *Syco-morus*, *Ficus Pharonis*. It grows naturally in Egypt.

Religiosa

2. The ſecond ſpecies is titled, *Ficus foliis cordatis oblongis integerrimis acuminatis*. Plukenet calls it, *Ficus Malabrienſis, folio cuſpidato, fructu rotundo parvo gemino*; and Rheede, *Ariealu*. It grows naturally in India.

Benghalensis

3. The third ſpecies is titled, *Ficus foliis ovatis integerrimis obtuſis, caule infernè radicato*. Plukenet calls it, *Ficus Americana, latiore folio venoſo*; Commeline, *Ficus Benghalenſis, folio ſubrotundo, fructu orbiculato*; and Rheede, *Peralu*. It grows naturally in India.

Indica

4. The fourth ſpecies is titled, *Ficus foliis lanceolatis integerrimis petiolatis pedunculis aggregatis, ramis radicantibus*. Tabernæmontanus calls it, *Ficus Indica Theophraſti*; Caſpar Bauhine, *Ficus Indica foliis mali cotoneæ ſimilibus, fructu ficubus ſimili*; Van Royen, *Ficus foliis lanceolatis integerrimis*; Brown, *Ficus arborea aſſurgens utrinque brachiata, foliis ovatis, ramis appendiculas tenues, flexiles, dependentes, demittentibus*; Sloane, *Ficus Indica maxima, folio oblongo, funiculis e ſummis ramis dimiſſis radices agentibus ſe propagans, fructu minori ſphærico ſanguineo*; Plukenet, *Ficus Americana, arbuti foliis non ſerratis, fructu piſi magnitudine*; Cateſby, *Ficus citri folio, fructu parvo purpureo*; Rumphius, *Varinga latifolia*; and Rheede, *Katou-alou*; alſo, *Tſiela*. It grows naturally in both the Indies.

Racemosa

5. The fifth ſpecies is titled, *Ficus foliis ovatis acutis integerrimis, caule arboreo, fructu racemoſo*. Rumphius calls it, *Groſſularia domeſtica*; and Rheede, *Alty-alu*. It grows naturally in India.

Maculata

6. The ſixth ſpecies is titled, *Ficus foliis oblongis acuminatis ſerratis*. Plumier calls it, *Ficus caſtaneæ folio, fructu globoſo maculato*. It grows naturally in America.

Pumila

7. The ſeventh ſpecies is titled, *Ficus foliis ovatis acutis integerrimis, caule repente*. Kæmpfer calls it, *Ficus ſylveſtris procumbens, folio ſimplici*; and Rumphius, *Varinga repens*. It grows naturally in China and Japan.

Claſs and Order in the Linnæan Syſtem.

Fiſcus is of the Claſs and Order *Polygamia Polyoecia*; and the characters are,

The characters.

1. CALYX. The general calyx is large, oboval, fleſhy, concave, and cloſed with many ſemi-ſpear-ſhaped, acute, ſerrated, inflexed ſcales. The inner ſuperficies of this is every where covered with the florets.

The males are ſituated near the margin, or upper part of the fruit, and are but few in number.

The females are lower, and are very numerous.

I. Male flowers ſtand each on its own diſtinct footſtalk.

1. CALYX is an upright perianthium, divided into three ſpear-ſhaped, erect, equal parts.

2. COROLLA. There is none.

3. STAMINA are three ſetaceous filaments the length of the calyx, having didymous antheræ.

There is a caducous, intorted rudiment of a piſtil.

II. Female flowers ſit each on its own ſeparate footſtalk.

1. CALYX is a perianthium, divided into five ſpear-ſhaped, acuminated, ſtraight, and nearly equal parts.

2. COROLLA. There is none.

3. PISTILLUM conſiſts of an oval germen the ſize of the perianthium; an awl-ſhaped, inflexed ſtyle, riſing from the ſide of the germen; and two acuminated, reflexed ſtigmas, one being ſhorter than the other.

4. PERICARPIUM. There is none. The ſeed is lodged in the calyx.

6. SEMEN. The ſeed is ſingle, roundiſh, and compreſſed.

CHAP.

CHAP. CVIII.

FUCHSIA.

THERE is only one ſpecies of this genus, called, *Fuchſia*.

The plant deſcribed.

The ſtalk is herbaceous, upright, and undivided. The leaves are ternate, ſpear-ſhaped, and ſit cloſe. The flowers are produced from the tops of the ſtalks in looſe ſpikes; they are of a beautiful ſcarlet colour; and the ſpikes being long, and erect, cauſe a fine appearance when in blow.

Culture.

This plant is propagated by ſowing the ſeeds in pots filled with light, rich earth, and plunging them into a hotbed of tanner's bark. When the plants are three inches high, they muſt be potted ſeparately, be again plunged into the hotbed, and be watered and kept ſhaded until they have taken root. After that they muſt have more air; but it muſt be given them with caution, for they are very tender at all times, but more eſpecially when young. In the autumn, they muſt be taken into a good bark ſtove, where they muſt conſtantly remain; affording them all neceſſary ſupplies of water, freſh air, &c. as the ſeaſons will permit, and the nature of tender plants requires.

Titles.

This being the only ſpecies of the genus, it is named ſimply, *Fuchſia*. Father Plumier calls it, *Fuchſia triphylla, flore coccineo*. It grows naturally in moſt of the warmeſt parts of America.

Triphylla.

Claſs and Order in the Linnæan Syſtem.

Fuchſia is of the Claſs and Order *Tetrandria Monogynia*; and the characters are,

The characters.

1. Calyx is an undivided margin, ſituated upon the germen.

2. Corolla is one funnel-ſhaped petal. The tube is clavated. The limb is plane, and cut into eight acuminated ſegments.

3. Stamina are four filaments the length of the tube, having roundiſh, didymous antheræ.

4. Piſtillum conſiſts of an oval germen ſituated below the calyx, a ſimple ſtyle the length of the ſtamina, and an obtuſe ſtigma.

5. Pericarpium is a roundiſh, four-furrowed berry, containing four cells.

6. Semina. The ſeeds are many, oval, and placed in a double ſeries.

CHAP. CIX.

GARCINIA, MANGOSTAN.

Species.

THERE are two ſpecies of this genus, viz.
1. Bay-leaved Mangoſtan of Java.
2. Indian Mangoſtan.

Bay-leaved Mangoſtan of Java deſcribed.

1. Bay-leaved Mangoſtan of Java. The ſtem of this plant is upright, robuſt, ſends out branches by pairs oppoſite from every ſide, and grows to be eighteen or twenty feet high. The leaves are large, oval, ſmooth, of a ſhining green colour on their upper-ſide, but paler and veined underneath. The flowers are produced ſingly on footſtalks from the ſides of the branches; they are of a dark-red colour, and are ſucceeded by a large, round fruit, as big as an Orange, and full of a delicious juice.

Indian Mangoſtan deſcribed.

2. Indian Mangoſtan. The ſtem of this plant is upright, branching, and grows to be fifteen or twenty feet high. The leaves are large, ſpear-ſhaped, ſmooth, and of a bright-green colour. The flowers grow three together on a footſtalk; and they are ſucceeded by a large, round, pulpy, juicy fruit, of a moſt excellent flavour.

The fruit of theſe trees is ſaid to ſurpaſs all others for richneſs of flavour; they are large, round, have a coriaceous coat, and the pulp within is ſoft, full of juice, and ſurrounds the ſeeds in the manner of the Orange.

Culture.

They are propagated by ſeeds, which muſt be procured from the countries where they naturally grow. Theſe muſt be ſent over in the fruit, and a great number of the faireſt kinds muſt be ſelected for the purpoſe, becauſe many of them will be found to contain no good ſeeds. On their arrival, they muſt be ſown in pots filled with light, rich earth, and plunged into a hotbed of tanner's bark. If the ſeeds are good they will appear in four or five weeks, when all nurſing due to tender plants muſt accompany them, until they are four inches high. They muſt then be potted ſeparately, plunged again into the bark-bed, and be watered and kept ſhaded until they have taken root. From this bed they are to be removed into a good bark ſtove, where they muſt conſtantly remain, ſhifting them from time to time into larger pots, as often as they ſhall require it, keeping them warm in winter, affording them frequent waterings and much free air in ſummer, and managing them with all the care ſuitable to their nature.

Titles.

1. The firſt ſpecies is titled, *Garcinia foliis ovatis, pedunculis unifloris*. Caſpar Bauhine calls it, *Laurifolia Javanenſis*; Cluſius, *Arbor peregrina aurantio ſimili fructu*; and Rumphius, *Mangoſtana*. It grows naturally in Java.

Mangostana.

2. The ſecond ſort is titled, *Garcinia foliis lanceolatis, pedunculis trifloris*. Rumphius calls it, *Mangoſtana Celebica*. It grows naturally in India.

Celebica.

Claſs and Order in the Linnæan Syſtem.

Garcinia is of the Claſs and Order *Dodecandria Monogynia*; and the characters are,

The characters.

1. Calyx is a perianthium compoſed of four roundiſh, concave, obtuſe, patent, permanent leaves.

2. Corolla is four roundiſh, concave, patent petals, a little larger than the calyx.

3. Stamina are ſixteen ſimple, erect fila-

ments ſhorter than the calyx, and placed cylindrically, having roundiſh antheræ.

4. Pistillum conſiſts of a ſuboval germen, with ſcarce any ſtyle, but a plane, patent, peltated, octifid, obtuſe, permanent ſtigma.

5. Pericarpium is a large, globular, coriaceous berry, crowned by the ſtigma, and containing one cell.

6. Semina. The ſeeds are eight, fleſhy, hairy, convex on one ſide, and angular on the other.

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CHAP. CX.

GARDENIA.

THIS genus conſiſts only of one ſpecies, commonly called, The Cape Jeſſamine.

The plant deſcribed.

The ſtem of this plant is woody, branching, and covered with a grey bark. The young ſhoots are ſmooth, jointed, green, and come out by pairs. The leaves are ſpear-ſhaped, entire, of a thick conſiſtence, veined on their under-ſide, five inches long, two and an half broad, pointed, of a good green colour, and grow oppoſite by pairs on the branches. The flowers come out from the wings of the leaves; they are large, of a white colour, ſemi-double, and very fragrant; the calyx is tubular, five-cornered, and cut at the brim into five long, narrow, ſharp-pointed ſegments; the flower itſelf in reality is only monopetalous, for the three or four ſeries of ſeeming petals, of which it is compoſed, all join at their baſe; they appear in June, July, and often continue in ſucceſſion to the end of ſummer.

Culture.

It is propagated by laying down the young ſhoots into pots filled with light, freſh, rich earth. They will readily ſtrike root. When this is effected, they may be taken from the old plants, ſet each in a ſeparate pot, and then plunged up to the rims in the bark-bed, in the moſt temperate ſtove.

It is alſo encreaſed by cuttings. Theſe ſhould be planted in pots filled with the ſame kind of light, rich earth; and they ſhould then be plunged up to the rims in the bark-bed, where they muſt be conſtantly ſhaded and watered until they have taken root; and afterwards each plant ſhould be ſet in its own ſeparate pot, and be managed as the layers.

Titles; Florida

There being no other ſpecies of this genus, it ſtands ſingly with the name *Gardenia*. In Miller's Dictionary it is termed, *Jaſminum foliis lanceolatis oppoſitis integerrimis, calycibus acutioribus.* Rumphius calls it, *Cotsjopiri.* It grows naturally in the Eaſt-Indies, Surat, Amboyna, and the Cape of Good Hope.

Claſs and Order in the Linnæan Syſtem. The characters.

Gardenia is of the Claſs and Order *Pentandria Monogynia*; and the characters are,

1. Calyx is a monophyllous, quinquangular perianthium, divided into five erect, enſiforme, vertical, diſtant, permanent ſegments.

2. Corolla is an hypocrateriforme petal. The tube is cylindrical, and longer than the calyx. The limb is plane, and divided into five oboval ſegments the length of the tube.

3. Stamina conſiſt of five antheræ only, three having no filaments; theſe are narrow, inſerted in the opening of the flowers, and are about the length of the divided limb.

4. Pistillum conſiſts of a germen ſituated below the flowers, and a filiforme ſtyle the length of the tube, with a large, bilobed, oval, obtuſe ſtigma.

5. Pericarpium is ſuppoſed a juiceleſs, bilocular berry.

6. Semina. The ſeeds are many.

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CHAP. CXI.

GESNERIA.

Species.

THIS genus conſiſts of three ſpecies, called,

1. Tomentoſe *Geſneria.*
2. Dwarf *Geſneria.*
3. Scarlet *Geſneria.*

Tomentoſe,

1. Tomentoſe *Geſneria.* The ſtem is woody, divides into a few ligneous, woolly branches, and grows to about ſix feet high. The leaves are oval, ſpear-ſhaped, crenated, hairy, woolly, and grow on ſhort footſtalks. The flowers are produced in bunches from the ends and ſides of the branches, growing on very long footſtalks; they are of a dull red or purple colour, and appear in July and Auguſt.

Dwarf,

2. Dwarf *Geſneria.* The ſtalk is ſhrubby, and near two feet high; the leaves are ſpear-ſhaped, ſerrated, and ſit cloſe to the ſtalks. The flowers are produced from the wings of the leave on branching footſtalks; they are of a yellowiſh colour, and appear in July and Auguſt.

and Scarlet Geſneria deſcribed.

3. Scarlet *Geſneria.* This plant hath a low ſtalk, ſupporting at the top many ſpear-ſhaped, oval, rough, ſerrated leaves. The flowers are produced on footſtalks, which are ſhorter than the leaves; they are of a fine ſcarlet colour, and appear in June and July.

Culture.

All theſe plants are propagated by ſeeds, which muſt be procured from the countries where they naturally grow. They muſt be ſown as ſoon as poſſible after their arrival, in pots filled with light, rich earth, and in the ſpring muſt be plunged up to the rims in a hotbed of tanners bark. The uſual care neceſſary for tender ſeedlings muſt accompany the plants, after they come up, until they are fit to remove; when they ſhould be potted ſeparately, be again plunged into the bark-bed, and watered and kept ſhaded until they have taken root. In the autumn they muſt be taken into a good bark ſtove, where they muſt conſtantly remain, keeping them warm in winter, and allowing them much free air and frequent watering in ſummer.

Titles.

Tomentosa. 1. The firſt ſpecies is titled, *Geſneria foliis ovato-lanceolatis crenatis hirſutis, pedunculis lateralibus longiſſimis corymbiferis.* Father Plumier calls it, *Geſneria amplo-digitalis folio tomentoſo.* It grows naturally in moſt parts of the Weſt-Indies.

Humilis. 2. The ſecond ſpecies is titled, *Geſneria foliis lanceolatis ſerratis ſeſſilibus, pedunculis ramoſis multifloris.* Plumier calls it, *Geſneria humilis, flore flaveſcente*; and Sloane, *Digitalis folio oblongo ſerrato ad foliorum alas florida.* It grows naturally in America.

Acaulis. 3. The third ſpecies is titled, *Geſneria foliis lanceolato-ovatis ſerratis ſubpetiolatis terminali-confertis, pedunculis trifloris folio brevioribus.* Brown calls it, *Geſneria rupeſtris indiviſa, foliis oblongis rugoſis, ſummo caule diſpoſitis, floribus ſingularibus ad alas*; and Sloane, *Rapunculo affinis anomala vaſculifera folio oblongo ſerrato, flore coccineo tubuloſo.* It grows naturally in Jamaica.

Claſs and Order in the Linnæan Syſtem.

Geſneria is of the Claſs and Order *Didynamia Angioſpermia*; and the characters are,

The characters.

1. CALYX is a monophyllous, permanent perianthium, cut at the top into five acute ſegments.

2. COROLLA is one petal. The tube is thick, and crooked. The limb is divided into five obtuſe ſegments, the two upper ones being concave, the three lower ones plane and patent.

3. STAMINA are four filaments ſhorter than the corolla, having ſimple antheræ.

4. PISTILLUM conſiſts of a depreſſed germen ſituated below the calyx, a ſimple ſtyle the length of the ſtamina, and a capitated ſtigma.

5. PERICARPIUM is a roundiſh, bilocular capſule, crowned by the calyx.

6. SEMINA. The ſeeds are numerous, and very ſmall.

CHAP. CXII.

GLEDITSIA, TRIPLE-THORNED *ACACIA*.

Species.

THERE are only two ſpecies of this genus, the Triple-thorned *Acacia*, already treated of as an hardy foreign tree; and the Thornleſs *Gleditſia*.

The plant deſcribed.

In America this tree riſes with a robuſt trunk, ſending forth a few branches, which have no thorns, and are covered with a light-brown, yellowiſh bark. The leaves are large, doubly-pinnated, bright, ſhining, and placed alternately on the branches. The flowers are produced from the ends of the branches, on ſhort but able footſtalks; they are of a bright purple colour; and their ſtamina are much longer than the petals; they are produced in plenty from the end of almoſt every branch, and are ſucceeded by long, hairy, flat pods, containing the ſeeds.

Culture.

This plant is propagated by ſowing the ſeeds in the ſpring, in pots filled with light earth, and plunging them up to the rims in a bark-bed. When the plants are of ſize to remove, each ſhould be ſet in a ſeparate pot, which ſhould be then plunged into a moderate heat, and be watered and ſhaded until they have taken root. From time to time they ſhould be ſhifted into larger pots, as often as there ſhall be occaſion; and their ſituation in winter ſhould be in the temperate ſtove.

Titles.

Inermis. This ſpecies is titled, *Gleditſia inermis.* Plukenet calls it, *Acacia Javanica non ſpinoſa, foliis maximis ſplendentibus*; and Houſtoun, *Acacia Americana non ſpinoſa, flore purpureo, ſtaminibus longiſſimis, ſiliquis planis villoſis.* It is a native of Java.

CHAP. CXIII.

GLORIOSA, The SUPERB LILY.

THIS genus at preſent conſiſts only of one ſpecies, called the Superb Lily.

The plant deſcribed.

The root is thick, fleſhy, brown without, whitiſh within, creeping, and of a poiſonous quality. The ſtalks are annual, round, weak, eight or ten feet long, and unleſs ſupported lie on the ground. The leaves are ſmooth, long, narrow, terminate in tendrils, and grow alternately. The flowers come out from the tops of the ſtalks, on ſlender footſtalks; they are large, greeniſh, and hang drooping at firſt; but when in their full beauty their petals are erect, and of a ſtrong flame colour; they appear in June and July, but are not ſucceeded by ripe ſeeds in England: The other parts of this plant, as well as the root, are ſaid to be poiſonous.

Culture.

It is propagated by parting of the roots, and planting them in pots filled with light, rich earth. The beſt time for it is early in the ſpring, before the ſtalks ariſe; and when they are planted, they ſhould be plunged into a hot-bed of tanners bark. The ſtalks will then ſoon appear; when they ſhould be frequently watered, but muſt have it in a ſmall quantity at a time; and this muſt be repeated all ſummer when they are in a growing ſtate; but in the autumn, when the ſtalks decay, and in winter, when their roots are inactive, very little water muſt be allowed them. As the ſtalks advance in height, proper ſticks muſt be thruſt down for their ſupport, to keep them ſeparate, and prevent their laying hold of any thing elſe; and when they are too tall for the glaſſes of the hotbed, they muſt be taken into a good bark ſtove, where they muſt conſtantly remain; and they will greatly beautify it by their grand and ornamental flowers when in full blow. The roots may be taken up in the autumn, and preſerved all winter in ſand, if put in a warm room where no froſt can come at them; and if planted in the ſpring, and managed as above, the ſtalks will ſoon ſhoot up for flowering.

Titles. Superba. There being no other ſpecies of this genus, it is named ſimply, *Glorioſa*. Herman calls it, *Methonica Malabarorum*; Commeline, *Lilium Zeylanicum ſuperbum*; and Rheede, *Mendoni*. It grows naturally in Malabar.

Claſs and Order in the Linnæan Syſtem. The characters. *Glorioſa* is of the Claſs and Order *Hexandria Monogynia*; and the characters are,

1. Calyx. There is none.

2. Corolla is ſix oblong, ſpear-ſhaped, waved, extremely long, and wholly reflexed petals.

3. Stamina are ſix awl-ſhaped, ſtraight, ſpreading filaments, ſhorter than the corolla, having incumbent antheræ.

4. Pistillum conſiſts of a globular, germen, a filiforme, inclining ſtyle longer than the ſtamina, and a triple, obtuſe ſtigma.

5. Pericarpium is an oval, pellucid capſule, formed of three valves, and containing three cells.

6. Semina. The ſeeds are many, globular, and diſpoſed in a double ſeries.

CHAP. CXIV.

GOMPHRENA, GLOBE AMARANTH.

THE glory of this genus is that Annual called the Globe Amaranth, ſo well known to gardeners, and ſo juſtly celebrated for its ſingular excellence and beauty. There are other ſpecies belonging to it, which are of a very tender nature; and though the flowers fall vaſtly ſhort of the beauty of the others, yet they are worthy of culture and management. A hotbed will raiſe them all; and there they will grow, and with good frames may be continued for ſome time; but as they are naturally ſhort-lived, it will be neceſſary to ſet them in the ſtove, by which the duration of their exiſtence may be prolonged. In the ſtove, therefore, let be placed,

Species.
1. The Perennial Globe Amaranth.
2. Yellow or Climbing Globe Amaranth.
3. Braſilian Globe Amaranth.
4. Hiſpid Globe Amaranth.
5. Interrupted-ſpiked Amaranth.

Perennial, 1. The Perennial Globe Amaranth is ſo ſhort-lived with us, as hardly to deſerve the appellation of Perennial: It ſeldom lives longer than about three years, with the beſt protection of the ſtove. If the niceſt management of the hot-bed be afforded it, it may be brought to flower, and ripen its ſeeds the firſt year, and accordingly may not improperly be called an Annual. It riſes with many ſlender, upright, hairy ſtalks, to about a yard or more. The leaves are ſpear-ſhaped, ſit cloſe to the ſtalks, are hairy, and grow oppoſite by pairs. The flowers are produced in ſmall heads from the ends of the ſtalks; they are of a pale yellow colour, and will be ſucceeded by good ſeeds.

Yellow, or Climbing, 2. Yellow or Climbing Globe Amaranth. This is a rambler, and muſt therefore be ſet in ſuch part of the ſtove where there will be moſt room to direct its courſe; for it will riſe with its climbing ſtalks to twenty or five and twenty feet high. The leaves are like thoſe of Campion, and grow oppoſite by pairs. The flowers are yellow, and grow oppoſite upon long footſtalks; and theſe again divide into ſmaller footſtalks, each of which ſuſtains three heads of flowers, the middle one ſitting cloſe to the ſtalk.

Braſilian, 3. Braſilian Globe Amaranth. This has an erect, branching ſtalk, and the leaves are of an oblong, oval figure. The flowers are produced in round heads, reſting on pedicles; they are yellowiſh, ſmall, and of very little beauty.

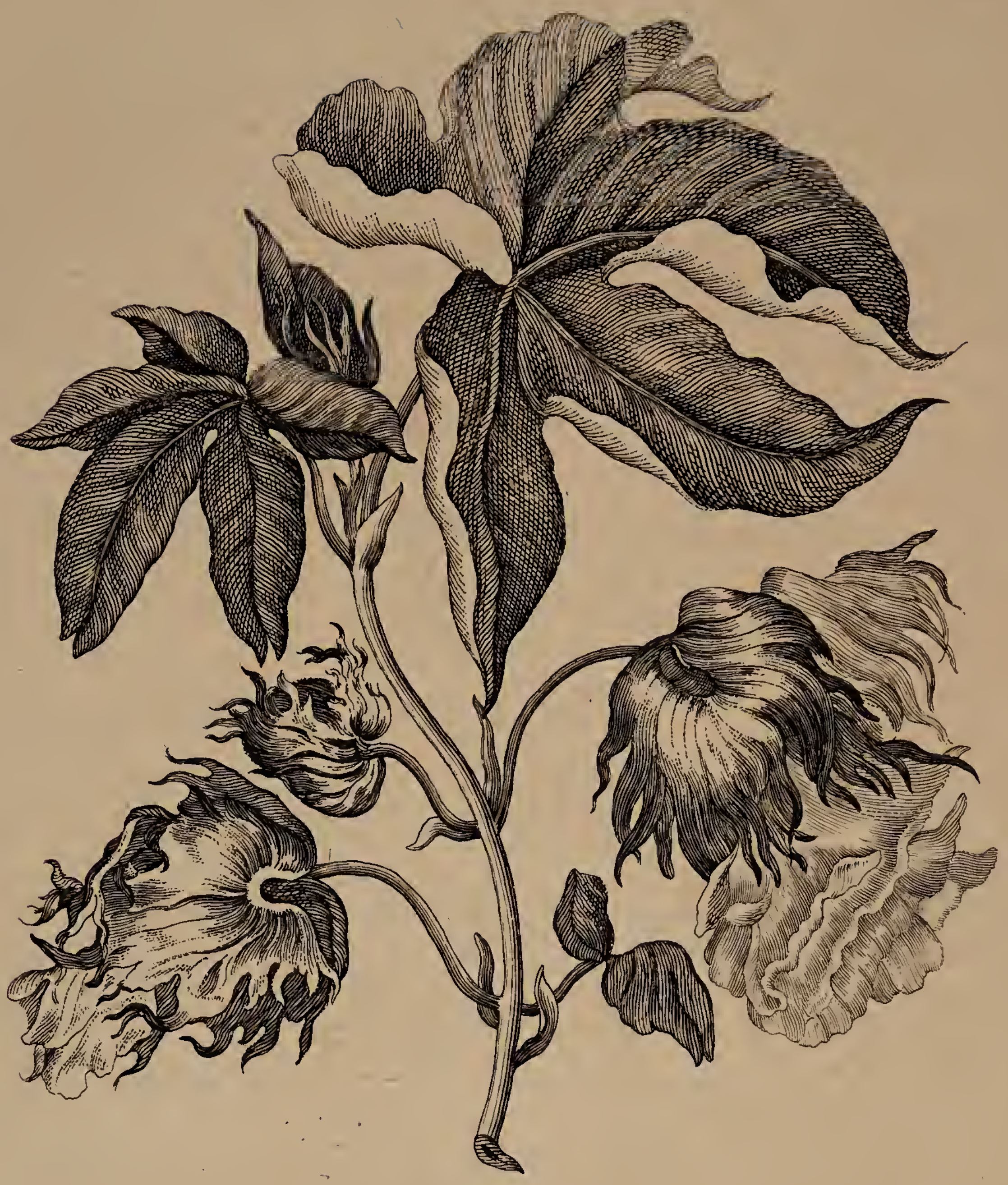
and Hiſpid Globe Amaranth deſcribed. 4. Hiſpid Globe Amaranth. This riſes with an upright, hiſpid, branching ſtalk. The leaves are crenated, and the heads of the flowers are ſmall; they are a kind of a bluiſh colour, and of little figure.

Interrupted-ſpiked Gomphrena deſcribed. 5. Interrupted-ſpiked *Gomphrena*. This has many upright, ſlender, irregular ſtalks, which will grow to about a yard in length. The leaves are ſmall, and of an oval, lanceolate figure. The flowers are of a pale purple colour, and grow in ſmall ſpikes from the ends of the branches. This is much recommended for the ſtove, as it will there continue to flower and diſplay its beauty all the winter; as will alſo the different ſorts of the Globe Amaranth; and which ought, if there be convenience for it, to be placed therein, in order to preſerve their flowers in beauty for a longer time.

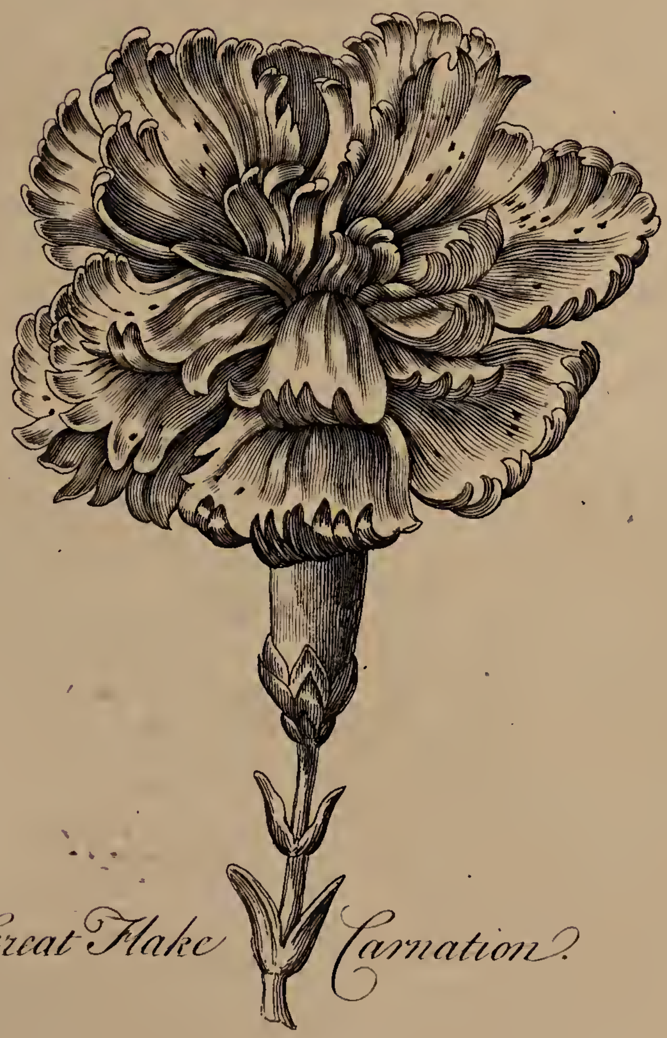
Culture. All theſe ſorts ſhould be raiſed on a hot-bed; the beſt time for which is the firſt week of March. The ſeeds will readily come up; and after they are about two inches high, the plants ſhould be carefully taken up with a ball of earth to each root, and ſet in another pot provided for the purpoſe. Here let them ſtand for a month or more, and then take them up with the greateſt care, and plant them in pots: This being done, give them a gentle watering, and place the pots on a third hot-bed, filling up the vacancies with mould of any ſort. Shade them from the heat of the day, and water them frequently in dry weather, and all along let them have as much air as poſſible. Your buſineſs is then done; your plants are raiſed; and you may any time at your leiſure remove them into the ſtove.

Titles. Perennis. 1. Perennial Globe Amaranth is titled, *Gomphrena foliis lanceolatis, capitulis diphyllis, floſculis perianthio proprio diſtinctis.* Dillenius calls it, *Amaranthoides perenne, floribus ſtamineis radiatis.* It grows naturally in Bonaria.

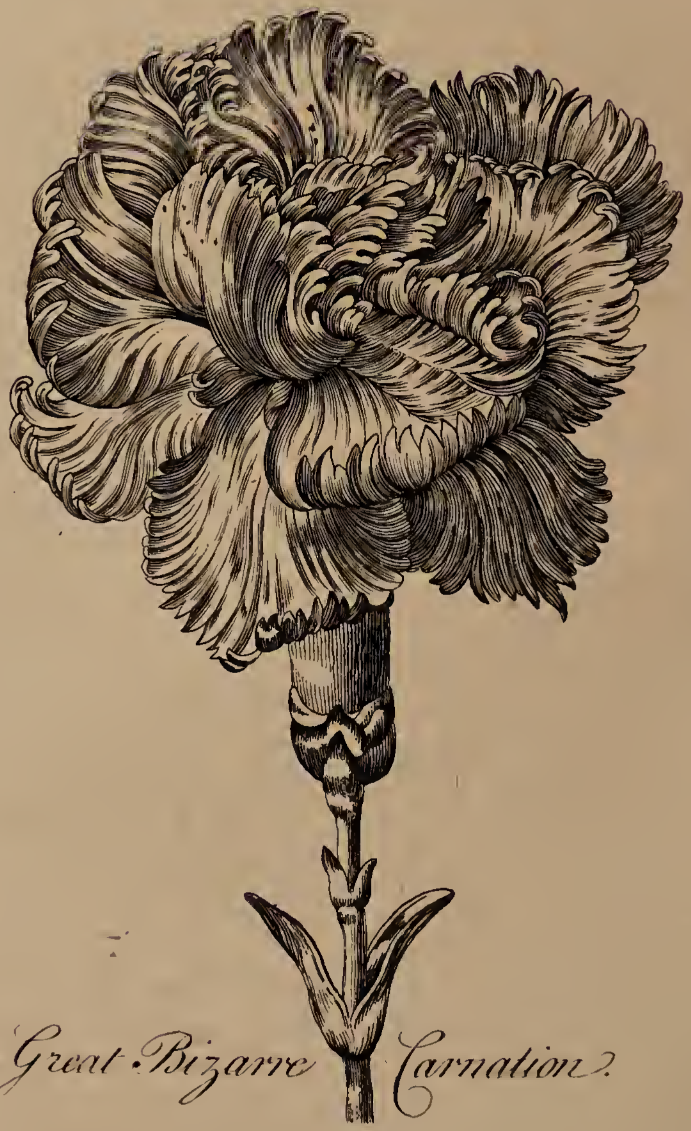
Flava. 2. Yellow or Climbing Globe Amaranth is titled, *Gomphrena pedunculis oppoſitis bifidis tricapitatis, capitulo intermedio ſeſſili.* In the *Hort. Cliff.* it is termed, *Gomphrena pedunculis ad alas geminatis*



Cotton Tree



Great Flake Carnation



Great Bizarre Carnation

geminatis tricapitatis. It grows naturally in Vera Cruz.

Braſiliana. 3. Braſilian Globe Amaranth is titled, *Gomphrena caule erecto, foliis ovato-oblongis, capitulis aphyllis globoſis pedunculatis.* Breynius calls it, *Amarantho, affinis Braſiliana, glomeratis parviſque floribus.* It grows naturally in Braſil.

Hiſpida. 4. Hiſpid Globe Amaranth is titled, *Gomphrena caule erecto, capitulis diphyllis, foliis crenatis.* It grows in Malabar.

Interrupta. 5. Interrupted-ſpiked Amaranth is titled, *Gomphrena, caule erecto, ſpicâ interruptâ.* It grows in America.

CHAP. CXV.

GOSSYPIUM, COTTON.

The plant deſcribed. IN the warmeſt ſtove muſt be ſituated the Cotton Tree. The ſtalk is perennial, woody, ſmooth, branching, and eight or ten feet high. The leaves are large, ſmooth, palmated, conſiſting of four or five ſpear-ſhaped lobes. The flowers come out from the ends of the branches; they are of a deep yellow colour, appear in Auguſt, and are ſucceeded by large pods, containing the ſeeds wrapped in cotton.

Culture. This is raiſed in the ſame manner as the annual ſpecies of Cotton, but muſt be removed early into the warmeſt ſtove, plunging the pots up to the rims in the bark bed, in order to continue it in perfection through the winter.

Titles. Arboreum. The Cotton Tree is titled, *Goſſypium foliis palmatis: lobis lanceolatis, caule fruticoſo.* In the *Hortus Cliffort.* it is termed, *Goſſypium, caule erecto.* Rumphius calls it, *Goſſypium latifolium*; Caſpar Bauhine, *Goſſypium arboreum, caule lævi*; and Plukenet, *Goſſypium herbaceum; ſ. Xylon Maderaſpatenſe, rubicundo flore, pentaphylleum.* It grows naturally in the ſandy parts of India.

CHAP. CXVI.

GREWIA.

THIS genus conſiſts of two ſpecies, one of which has already been treated of among the Green-houſe plants; the other, which requires the ſtove, is called Oriental *Grewia.*

The plant deſcribed. The ſtalk is woody, covered with a brown bark, ſends out many branches from the ſides, and grows to be five or ſix feet high. The leaves are oval, ſpear-ſhaped, ſerrated, and grow alternately on ſhort footſtalks. The flowers come out in ſmall cluſters from the ends and ſides of the branches; they are greeniſh on the outſide, but white within; and they fall off without being ſucceeded by ripe berries in England.

Culture. This plant is propagated by ſeeds, which ſhould be procured from the countries where they naturally grow: They ſhould be ſown in pots filled with rich garden-mould, and plunged into a hotbed of tanners bark. When the plants are fit to remove, each muſt be ſet in a ſeparate pot, be again plunged into the bark-bed, and watered and kept ſhaded until they have taken root. After that they muſt have a large ſhare of air, if the weather is hot, and frequent watering; and in the autumn muſt be taken into a warm bark ſtove, where they muſt conſtantly remain with ſimilar treatment to that of other tender plants.

Titles. Orientalis. This ſpecies is titled, *Grewia foliis ſub-lanceolatis.* Van Royen calls it, *Grewia corollis obtuſis*; and Rheede, *Pai-para ſ. Couradi.* It grows naturally in India.

CHAP. CXVII.

GUAJACUM, LIGNUM VITÆ, or POCKWOOD.

Species. OF this genus are,

1. The Great *Guajacum* Tree.
2. The Leſſer *Guajacum* Tree.

Greater 1. The Great *Guajacum* Tree is two feet in diameter, robuſt, covered with a brittle, browniſh bark, grows to forty or fifty feet high, and ſends out many aſh-coloured branches, which are long, and knotty. The leaves are pinnated; the pinnæ are four in number, ſtand by pairs, are oval, firm, and of a ſhining-green colour. The flowers are produced in cluſters from the ends of the branches, are of a fine blue colour, and are ſucceeded by a roundiſh fruit, which is of a red colour when ripe.

The wood of this tree is very hard, ponderous, of a dark-yellow colour, reſinous, and a hot aromatic taſte.

and Leſſer Guajacum Tree deſcribed. 2. Leſſer *Guajacum* Tree. The trunk of this plant is upright, firm, branching, often a foot in diameter, and grows to about twenty feet high. The leaves are pinnated; the pinnæ are ſmall, oval, obtuſe, firm, of a dark-green colour, and arranged by pairs along the midrib. The flowers are produced in cluſters from the ends of the branches; they are large, of a fine blue colour, having their edges elegantly fringed, and are ſucceeded by a four-cornered fruit, containing the ſeeds.

The wood of this plant alſo is ponderous, of a compact texture, reſinous, and of a hot aromatic taſte.

Medicinal Properties. The wood of both theſe trees is indiſcriminately ſent over to us under the name of *Guajacum*; and the trees afford the ſame kind of reſinous matter, called *Gum Guajacum*. The wood, bark, and reſin are all of admirable uſe in medicine, being purgative, powerful ſtrengtheners of the ſtomach, cleanſers of the blood, and promoters of the urinary and cuticular diſcharges; they are alſo of ſignal ſervice in the gout, king's evil, rheumatiſm, &c. The wood is an ingredient in many compoſitions, but the reſin is the moſt active; and the efficacy of the others is in proportion to the greater or leſs quantity of reſin contained in them.

Culture. The plants are propagated from ſeeds, which muſt be procured from the countries where they naturally grow. They muſt be ſown in pots, and raiſed like thoſe of the African *Guajacum* Tree, which has already been treated of as a Green-houſe plant; but they ſhould not be ſet abroad in the ſummer, but muſt be continued in the bark-bed until the autumn, allowing the plants much free air, and frequent waterings in hot weather, during their continuance there. In the autumn they muſt be taken into a good bark ſtove, where they muſt conſtantly remain, keeping them warm in winter, affording them plentiful and frequent waterings in ſummer, and ſhifting them from time to time into larger pots, as often as they ſhall require it.

Titles. Officinale

1. The Great *Guajacum* Tree is titled, *Guajacum foliolis bijugis obtuſis*. In the *Hort. Cliff.* it is termed, *Guajacum foliis pinnatis: foliolis quaternis*. Brown calls it, *Guajacum foliis ferè impetiolatis bijugis obovatis & leniter radiatis, pinnis & ramulis dichotomis*; Father Plumier, *Guajacum flore cœruleo, fructu ſubrotundo*; Caſpar Bauhine, *Guajacum magnâ matrice*; Sloane, *Pruno vel Euonymo affinis arbor, folio alato buxeo ſubrotundo*; and Plukenet, *Guajacum Jamaicenſe, foliis velut muria conditis, ſpiſſius virentibus, flore ſubcœruleo*; alſo, *Guajacum Jamaicenſe, lentiſci ſubrotundis foliis lætè virentibus, flore albo*. It grows naturally in Hiſpaniola and Jamaica.

Sanctum

2. The Leſſer *Guajacum* Tree is titled, *Guajacum foliis multijugis obtuſis*. Van Royen calls it, *Guajacum foliis pinnatis, foliolis obverſè ovatis integerrimis*; Plumier, *Guajacum flore cœruleo fimbriato, fructu tetragono*; Commeline, *Guajacum Americanum, lentiſci folio*; Caſpar Bauhine, *Guajacum propemodum ſine matrice*; and Plukenet, *Jaſminum vulgo Americanum ſ. Euonymo affinis occidentalis, alatis ruſci foliis, nucifera, cortice ad genicula fungoſo*. It grows naturally in moſt of the warmer parts of the Spaniſh Weſt Indies.

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CHAP. CXVIII.

GUILANDINA, The *BONDUC*, or NICKAR TREE.

Species. OF this genus are,

1. The Great *Bonduc*, or Nickar Tree.
2. The Leſſer *Bonduc*.
3. *Moringa*.

Great Bonduc, or Nickar Tree deſcribed. 1. The Great *Bonduc*, or Nickar Tree. The ſtalk is woody, weak, armed with ſharp, crooked thorns, and if ſupported riſes to fifteen or ſixteen feet high. The leaves are pinnated, and very large; the pinnæ are numerous, oval, and the midrib is armed with thorns like thoſe of the ſtalk, but ſmaller. The flowers are produced from the wings of the leaves in long ſpikes; they are of a yellow colour, and are ſucceeded by broad, thick, prickly pods, containing the ſeeds, which are globular, large as marbles, hard, and of a yellow colour when ripe.

The Leſſer Bonduc deſcribed. 2. The Leſſer *Bonduc*. The ſtalk is woody, weak, prickly, and grows to eight or ten feet high. The leaves are pinnated, but not ſo large as the former; the pinnæ are, however, numerous, oblong, oval, pointed, ſit cloſe together, and below each pair are two ſhort, reddiſh, crooked ſpines, placed oppoſite. The flowers are produced in ſpikes from the wings of the leaves; they are of a deep-yellow colour, and are ſucceeded by broad, echinated pods, containing large, globular, oſſeous, aſh-coloured ſeeds.

Moringa deſcribed. 3. *Moringa*. The ſtem is ſtrong, unarmed with thorns, covered with a ſmooth, aſh-coloured bark, and grows to be twenty or thirty feet high. The leaves are bipinnated, and very large; the ſmall leaves are of an oval figure, a light-green colour, and a little hoary underneath. The flowers are produced in bunches from the wings of the leaves; they are large, and are ſucceeded by large angular pods, containing the ſeeds.

Culture. All theſe ſorts are propagated from ſeeds, which muſt be procured from the countries where they naturally grow. The ſeeds are extremely hard; which makes it neceſſary, previous to ſowing, to ſoak them four or five days in water in the ſtove to ſoften, otherwiſe they will be a long time before they come up. Having undergone this previous ſoaking, they muſt be ſown in pots filled with rich, light, freſh earth, and be plunged into a good hotbed of tanner's bark. When the plants are about three or four inches high, they muſt be potted ſeparately, be again plunged into the hotbed, and be ſlightly watered and kept ſhaded until they have taken root; afterwards they muſt have a larger ſhare of air, eſpecially in hot weather. In the autumn they muſt be taken into a good bark ſtove, where they muſt conſtantly remain, keeping them warm, and giving them but little water in winter, and managing them in ſummer, and at all times, in a manner ſuitable to the nature of tender plants.

Titles. Bonduc.

1. The firſt ſpecies is titled, *Guilandina aculeata pinnis ovatis, foliolis aculeis ſolitariis*. In the *Hort. Cliff.* it is termed, *Guilandina caule fructuque aculeatis*. Plumier calls it, *Bonduc vulgare majus polyphyllum*; Plukenet, *Acacia glorioſa, lentiſci folio, ſpinoſa, flore ſpicato luteo, ſiliquâ magnâ muricatâ*; Sloane, *Lobus echinatus, fructu flavo, fo-*

liis rotundioribus; and Rumphius, *Frutex globulorum.* It grows naturally in both the Indies.

Bonducella. 2. The ſecond ſpecies is titled, *Guilandina aculeata, pinnis oblongo-ovatis, foliolis aculeis geminis* In the *Flora Zeylanica* it is termed, *Guilandina aculeata, foliolis ovalibus acuminatis.* Plumier calls it, *Bonduc vulgare minus polyphyllum*; Breynius, *Criſta Pavonis, glycyrrhizæ folio, minor repens ſpinoſiſſima, flore luteo ſpicato minimo, ſiliquâ latiſſimâ echinatâ, ſemine rotundo cinereo*; Rumphius, *Globuli majores*; and Sloane, *Lobus echinatus fructu cæſio, foliis longicibus.* It grows naturally in both the Indies.

3. The third ſpecies is titled, *Guilandina inermis, foliis ſubbipinnatis: foliolis inferioribus ternatis.* In the *Hort. Malabricus* it is named, *Morungu.* Caſpar Bauhine calls it, *Lignum peregrinum aquam cæruleam reddens*; and Burman, *Moringha Zeylanica, foliorum pinnis pinnatis, flore majore, fructu anguloſo.* It grows naturally in Ceylon, America, and Egypt. Moringa.

CHAP. CXIX.

HÆMANTHUS, The BLOOD FLOWER.

Species. THIS genus comprehends four ſpecies, viz.

1. Smooth-leaved Blood Flower.
2. Ciliated Blood Flower.
3. Carinated Blood Flower.
4. Waved-leaved Blood Flower, or Guinea *Orchis.*

Smooth-leaved, 1. Smooth-leaved Blood Flower. The root is a very large, tunicated bulb, of a white colour within, and ſends forth many thick, fleſhy fibres from the baſe deep into the ground. The leaves are tongue-ſhaped, flat, ſmooth, fleſhy, and ſpread themſelves backward on the ground; they riſe from the root in the autumn, continue green all winter, and early in the ſummer wither and decay. When the leaves are abſent, the flower-ſtalks ariſe, are upright, thick, ſomewhat compreſſed, and of a pale-green colour, uſually ſpotted with white and purple. The flowers are produced from the tops of the ſtalks; they are large, of a blood-red colour, and very beautiful; they ſhew themſelves in the end of ſummer, or the early part of the autumn, before the leaves ariſe, but the ſeeds do not ripen in England. This ſpecies in ſome parts goes by the name of the Bloody Lily, in others of the African Tulip.

Ciliated, 2. Ciliated Blood Flower. The root is a round bulb of ſeveral inches diameter, ſending down proportionably thick, fleſhy fibres from the baſe. The leaves are tongue-ſhaped, ciliated, ſpotted, and ſpread themſelves backward on the ground. The ſtalk is upright, thick, firm, and a foot and a half high. The flowers come out from the tops of the ſtalks; they are of a red colour, appear about the ſame time with the former, but are not ſucceeded by ſeeds in England.

and Carinated Blood Flower deſcribed. 3. Carinated Blood Flower. The root is a large bulb, having many thick, fleſhy fibres, diverging from the baſe, and ſtriking deep into the ground. The leaves are three or four in number, narrow, carinated, about a foot long, fall backward, but do not ſpread themſelves on the ground in the manner of the former ſorts. The ſtalk is upright, thick, and about a foot high. The flowers come out from the tops of the ſtalks, iſſuing from a coloured involucrum, in the manner of the firſt ſort; but they are of a much paler-red colour, nor are they ſucceeded by ſeeds in England

Waved-leaved Blood Flower, or Guinea Orchis deſcribed. 4. Waved-leaved Blood Flower, or Guinea *Orchis.* The root is bulbous, large, thick, and fleſhy. The ſtalk is upright, thick, ſucculent, about a foot high, of a pale-green colour, and elegantly ſpotted or clouded all over with white and purple. The leaves are ſpear-ſhaped, oval, ſmooth, waved on their edges, and grow erect. The flowers are collected at the top into umbels, having a large, green involucrum; they are of a bright-red or ſcarlet colour, and make a noble appearance when in blow.

Culture. All theſe ſorts are propagated by off-ſets from the roots; but as they rarely encreaſe that way in England, the roots muſt be procured from the countries where they naturally grow; which may be eaſily effected, as they may be taken up when the leaves decay, and preſerved like other bulbs, until the time for their ſhooting up afreſh.

As ſoon as poſſible, however, after their arrival, let them be planted in pots, and, if it happens to be ſummer, ſet in ſome warm, ſhady part of the garden, where they may remain until the autumn, when they muſt be plunged into the bark-bed of the ſtove. If you have no conveniency of obtaining them before the autumn or winter, let them be planted and plunged directly into the bark-bed; and in either caſe the leaves will ſoon appear. When they are in a growing ſtate, they muſt be frequently refreſhed with water, but muſt have it in very ſmall quantities at a time; but when their roots are inactive, little or no water muſt be afforded them. About the ſecond year, if the roots were ſtrong, you may expect them to flower; when they will diſplay great elegance and beauty. The ſoil in which they are planted ſhould be an undunged, but nevertheleſs freſh earth, ſuch as is taken from a fertile meadow, adding to it a mixture of about one fourth of drift or ſea ſand. When you perceive any of the roots to throw out off-ſets, theſe muſt be carefully taken off, and planted as the others; but theſe will be many years before they come to flower; neither is it worth while to beſtow the trouble of nurſing them for ſo long a ſeaſon, if there is the conveniency of procuring the bulbs from the Cape of Good Hope, where moſt of them naturally grow.

They are alſo propagated by ſeeds, which muſt be procured from the countries where they naturally grow. Theſe muſt be ſown in pots filled with light, ſandy earth, and plunged into a hot-bed of tanner's bark. But the different ſtages the plant muſt undergo from the ſeeds until they come to maturity are ſo numerous, and the years to accompliſh it ſo many, that it is a more tedious method of propagating them than the former, neither is the practice worth attempting.

Titles. 1. Smooth-leaved Blood Flower is titled, *Hæmanthus foliis linguiformibus planis lævibus.* Coccineus.

Commeline calls it, *Hæmanthus foliis obtuſis baſi truncatis*; and Ferrarius, *Narciſſus Indicus puniceus.* It grows naturally at the Cape of Good Hope.

Ciliaris. 2. Ciliated Blood Flower is titled, *Hæmanthus foliis linguiformibus ciliatis.* Herman calls it, *Lilium Africanum ſphæricum, floribus obſoletè puniceis minoribus*; and Breynius, *Bulbus oblongus Æthiopicus, foliis guttatis & cilii inſtar piloſis.* It grows naturally at the Cape of Good Hope.

Carinatus. 3. Carinated Blood Flower is titled, *Hæmanthus foliis linearibus carinatis.* It grows naturally at the Cape of Good Hope.

Puniceus. 4. Waved-leaved Blood Flower, or Guinea Orchis, is titled, *Hæmanthus foliis lanceolato-ovatis undulatis erectis.* Dillenius calls it, *Hæmanthus colchici foliis, perianthio herbaceo*; Caſpar Bauhine, *Orchis e Guinea*; and Moriſon, *&c. Satyrium e Guinea.* It grows naturally in Guinea.

Claſs and Order in the Linnæan Syſtem.

Hæmanthus is of the Claſs and Order *Hexandria Monogynia*; and the characters are,

The characters.

1. CALYX. The involucrum is large, umbelluliferous, and compoſed of ſix erect, oblong, permanent leaves.

2. COROLLA is one erect petal divided into ſix parts. The tube is very ſhort, and angular; and the divided parts are erect, and narrow.

3. STAMINA are ſix awl-ſhaped filaments longer than the flower, and inſerted in the tube of it, having oblong, incumbent antheræ.

4. PISTILLUM conſiſts of a germen ſituated below the receptacle, a ſimple ſtyle the length of the ſtamina, and a ſimple ſtigma.

5. PERICARPIUM is a roundiſh berry, containing three cells.

6. SEMEN. The ſeed is ſingle, and triangular.

CHAP. CXX.

HAEMATOXYLUM, LOGWOOD.

THIS genus at preſent conſiſts only of one ſpecies, called, Logwood.

The plant deſcribed.

The ſtem is crooked, irregular, grows to be twenty feet high; and ſends out many crooked, irregular branches from the ſides, which are armed with ſtrong thorns. The leaves are pinnated, and conſiſt of about three or four pair of pinnæ, which are obtuſe, and indented at the top. The flowers come out in erect bunches from the wings of the leaves; they are of a yellowiſh colour, having purple cups; and are ſucceeded by ſpear-ſhaped, obtuſe capſules, each containing two or three oblong, compreſſed ſeeds.

Culture.

They propagate themſelves very plentifully, in the countries where they naturally grow, by fallen ſeeds, which come up like the Aſh in our Engliſh plantations; but as the value of the wood, for dying of purple and the fineſt blacks, is very great, they are now propagated in amazing plenty in the Spaniſh Weſt-Indies, from whence the wood is ſent to Europe, and becomes a conſiderable branch of trade. Trees raiſed in regular plantations grow much faſter than ſuch as ariſe from caſual ſeeds; though, in either caſe, they grow very faſt; and good Logwood fit for felling has often been found, when no older than ten years growth from ſeeds. But this is not always the caſe; it is only when the plants happen on a ſuitable ſpot, and are regularly raiſed in plantations, by previouſly well digging the ground, ſowing the ſeeds, thinning the plants afterwards when they are too cloſe, and keeping them clean for three or four years; and ſuch plantations are rarely found to be in perfection for felling under fourteen or fifteen years. In Jamaica, and many of the American iſlands, this tree is uſed for fences; for the branches being numerous, and armed with ſtrong thorns, it ſeems well adapted to make a ſtrong fence. It flouriſhes as well in Jamaica, and many of our iſlands, as it does in thoſe belonging to the Spaniards; which ſhould induce our planters to raiſe a ſufficient ſtock for ſale, as it would not only be a lucrative article to themſelves, but in ſome meaſure put an end to the almoſt conſtant quarrels and diſputes about the right of cutting Logwood.

It flouriſhes well in our ſtoves; and is raiſed here by ſowing the ſeeds in pots filled with light, freſh earth, and plunging them up to the rims in a hotbed of tanner's bark. When the plants are about three or four inches high, they muſt be potted ſeparately, be again plunged into the bark bed, and be watered and kept ſhaded until they have taken root. After that they muſt have more air, and in the autumn muſt be taken into a good bark ſtove, where they ſhould conſtantly remain, ſhifting them from time to time into larger pots, as often as they ſhall require it; keeping them warm, and affording them very little water in winter; and granting them frequent waterings, and plenty of free air, in hot weather, in ſummer.

Campechianum. Titles.

This being the only ſpecies of which the genus conſiſts, it is named ſimply, *Hæmatoxylum.* Sloane calls it, *Lignum Campechianum, ſpecies quædam.* It grows naturally in moſt parts of the Spaniſh Weſt-Indies, but no where in ſuch great plenty as in the Bay of Campeachy.

Claſs and Order in the Linnæan Syſtem.

Hæmatoxylum is of the Claſs and Order *Decandria Monogynia*; and the characters are,

The characters.

1. CALYX is a perianthium divided into five oval, permanent parts.

2. COROLLA is five, oval, equal petals, ſomewhat larger than the calyx.

3. STAMINA are ten awl-ſhaped filaments a little longer than the corolla, having ſmall antheræ.

4. PISTILLUM conſiſts of an oval, oblong germen, a ſimple ſtyle the length of the ſtamina, and a thickiſh, emarginated ſtigma.

5. PERICARPIUM is a ſpear-ſhaped, obtuſe capſule, formed of two navicular valves, and containing one cell.

6. SEMINA. The ſeeds are few, oblong, and compreſſed.

CHAP. CXXI.

HAMELLIA.

THERE is at preſent but one ſpecies of this genus, called, *Hamellia*.

The plant deſcribed. The ſtalk is woody, ſends out numerous ſlender, inflexed branches from the ſides, and grows to be twelve or fourteen feet high. The leaves are oval, oblong, veined underneath, and grow on ſhort footſtalks. The flowers are produced in looſe ſpreading ſpikes or bunches at the ends and ſides of the branches; they are of a yellow colour, and, when fallen off, are ſucceeded by oval, furrowed berries, full of ſeeds, which do not ripen in England.

Culture. This is propagated by planting cuttings in the ſpring, in pots filled with light, rich earth, and plunging them into a hotbed of tanner's bark. The uſual care of watering and keeping them ſhaded muſt be allowed them at firſt; and they muſt afterwards be hardened to bear a large ſhare of air, but muſt not be wholly expoſed. In the autumn they muſt be taken into a temperate bark ſtove, where they will flower very well, but are rarely ſucceeded by ſeeds in England.

They are alſo propagated by ſeeds, which muſt be procured from abroad, and ſown on a hotbed in the ſpring. When the plants are grown to about three or four inches high, they muſt be potted ſeparately, and managed like the cuttings.

Titles. Patens. Though this is the only ſpecies of this genus, it is titled, *Hamellia racemis patentibus*. Plumier calls it, *Periclymenum arboreſcens, ramulis inflexis, flore luteo*. It grows naturally in moſt of the warmeſt parts of America.

Claſs and Order in the Linnæan Syſtem. *Hamellia* is of the Claſs and Order *Pentandria Monogynia*; and the characters are,

The characters. 1. CALYX is a ſmall permanent perianthium, placed upon the germen, and divided into five erect, acute parts.

2. COROLLA is one petal. The tube is pentangular, and very long. The limb is ſmall, and divided into five acute, equal parts

3. STAMINA are five awl-ſhaped filaments, inſerted to the middle of the corolla, having oblong, linear antheræ, the length of the corolla.

4. PISTILLUM conſiſts of an oval, conical-pointed germen ſituated below the calyx, a filiforme ſtyle the length of the corolla, and a linear, obtuſe ſtigma.

5. PERICARPIUM is one oval, ſulcated, coronated berry, containing five cells.

6. SEMINA. The ſeeds are numerous, ſmall, roundiſh, and compreſſed.

⁂

CHAP. CXXII.

HEDYSARUM, FRENCH HONEY-SUCKLE.

IN the ſtove muſt be ſituated,

Species.
1. Climbing *Hedyſarum*.
2. Orange-leaved Cock's Head.
3. Three-leaved Cock's Head of Madraſs.
4. Ruſhy *Hedyſarum*.
5. Umbellated *Hedyſarum*.
6. Biarticulated podded *Hedyſarum*.
7. Hiſpid *Hedyſarum*.
8. Uncinated podded *Hedyſarum*.

Climbing Hedyſarum deſcribed. 1. Climbing *Hedyſarum*. The ſtalks of this plant are ſlender, woody, jointed, weak, twine about any thing ten or twelve feet high, and for want of ſuch aſſiſtance lie on the ground. The leaves are ſimple, oval, acute, ſoft, and ſilky underneath. The flowers come out in ſmall cluſters from the joints; their colour is white; they appear in the ſummer; and are ſometimes ſucceeded by ripe ſeeds in our gardens. There is a variety with purple flowers.

Orange-leaved Cock's Head deſcribed. 2. Orange-leaved Cock's Head. This plant hath a triangular, ligneous ſtalk, which ſends forth ſeveral three-ſided branches, that grow to four or five feet high. The leaves are ſimple, heart-ſhaped, oblong, ſmooth, grow on winged footſtalks, and much reſemble thoſe of the Orange Tree. The flowers come out from the ſides of the branches, in the ſummer, and are ſometimes ſucceeded by ſeeds in England.

Three-leaved Cock's Head of Madraſs deſcribed. 3. Three-leaved Cock's Head of Madraſs. The ſtalks of this plant are ſhrubby, and grow to about two or three feet high. The leaves are trifoliate, broad, and ſharp-pointed. The flowers come out in ſpikes from the wings of the leaves, cloſely guarded by roundiſh bracteæ; they appear in July and Auguſt, and are ſucceeded by ſmall pods, containing the ſeeds, which ſeldom ripen in England.

Ruſhy, 4. Ruſhy *Hedyſarum*. This plant hath a perennial root, which ſends forth ſeveral ſlender, herbaceous ſtalks, that grow to about two feet high. The leaves are trifoliate, each conſiſting of three ſpear-ſhaped folioles, which are of a light-green colour, and whitiſh underneath. The flowers come out in ſmall bunches from the ſides of the ſtalk, and are ſucceeded by ſmall, rhomboidal pods, containing the ſeeds.

Umbellated, 5. Umbellated *Hedyſarum*. The ſtem of this plant is woody, branching, and grows to be ten or twelve feet high. The leaves are trifoliate, moderately large, and of a light-green colour. The flowers are produced in umbels from the wings of the leaves, and are ſucceeded by ſmall, ſmooth pods, containing the ſeeds.

Biarticulated, 6. Biarticulated *Hedyſarum*. The ſtalks of this plant are tough, ligneous, perennial, and grow to about two feet high. The leaves are trifoliate, pointed, and of a light-green colour. The flowers come out in ſmall cluſters from the ſides of the ſtalks, and are ſucceeded by ſmall, ſmooth, biarticulated pods, containing the ſeeds.

and Hiſpid Hedyſarum deſcribed. 7. Hiſpid *Hedyſarum*. The ſtalks of this plant are ligneous, tough, and divide into ſeveral ſlender, hiſpid branches near the top. The leaves are trifoliate, and clammy to the touch. The flowers come out from the wings of the leaves, and are ſucceeded by ſmooth, entire, membranaceous pods, containing the ſeeds.

Uncinated-podded Hedyſarum deſcribed. 8. Uncinated-podded *Hedyſarum*. There are many varieties of this ſpecies; ſome being low, trailing plants, others growing erect. The leaves are trifoliate, nervoſe, hairy, and ſome of the ſorts are finely ſcented. The flowers are chiefly yellow, though there are others of different colours; they are produced in ſeſſile ſpikes from the ſides of the ſtalks, and are ſucceeded by uncinated-pointed pods, each containing one or two ſeeds.

Culture. The ſeeds of all theſe ſorts, with good management, ripen in England, and by them plenty of plants may be raiſed. Sow the ſeeds in ſmall pots filled with freſh, light earth, in the ſpring, and then plunge them up to the rims in a hotbed of tanner's bark. When the plants are fit to remove, let each be ſet in its own ſeparate pot, be plunged again up to the rims in the bark bed, and be watered and ſhaded until they have taken root. After that they muſt have more air, and in hot weather be watered every other evening. Early in the autumn they muſt be removed into the ſtove, and have ſimilar treatment with other tender plants. All ſummer they muſt remain in the ſtove, and have plenty of air and water in hot weather. About July or Auguſt they for the moſt part flower, and the ſeeds ripen in the autumn.

Titles. 1. Climbing *Hedyſarum* is titled, *Hedyſarum foliis ſimplicibus ovatis ſubtus ſericeis, petiolis muticis.* Brown calls it, *Ecaſtaphyllum frutеſcens reclinatum, foliis ovatis acuminatis integris*; and Plumier, *Spartium ſcandens, citri foliis; floribus albis ad nodos confertim naſcentibus.* It grows naturally in the Weſt-Indies.

Ecasta-phyllum.

Triquetrum. 2. Orange-leaved Cock's Head is titled, *Hedyſarum foliis ſimplicibus cordato-oblongis, petiolis alatis, ramis triquetris.* Burman calls it, *Onobrychis Zeylanica monophyllos, caule triangulo, petiolis foliorum alatis*; Petiver, *Onobrychis Zeylanica, aurantii foliis*; and Rumphius, *Phaſeolus montanus.* It is a native of Ceylon.

3. Three-leaved Cock's Head of Madraſs is titled, *Hedyſarum foliis ternatis: bracteis ſtrobilorum orbiculatis conjugatis.* Burman calls it, *Hedyſarum trifoliatum fruteſcens, flore & fructu inter duo foliola obſconditis*; Ray, *Onobrychis Maderaſp. triphylla, ſiliculis eleganter foliaceis*; and Plukenet, *Onobrychis Indica triphyllos, foliis amplis mucronatis, ſiliquis parvis in ſpicam longam ex alis inter bina foliola circinata arctè conniventia reconditis.* It grows naturally in India. Pulchel-lum.

4. Ruſhy *Hedyſarum* is titled, *Hedyſarum foliis ternatis lanceolatis, leguminibus uniarticulatis rhombeis pedunculis lateralibus ſubumbellatis.* It grows naturally in India. Junceum.

5. Umbellated *Hedyſarum* is titled, *Hedyſarum foliis ternatis, pedunculis umbelliferis, caule fruticoſo.* Burman calls it, *Hedyſarum trifoliatum arboreſcens, floribus ex alis foliorum, ſiliquis copioſis glabris.* It grows naturally in India. Umbella-tum.

6. Biarticulated-podded *Hedyſarum* is titled, *Hedyſarum foliis ternatis, caule ſuffruticoſo, leguminibus biarticulatis.* Burman calls it, *Hedyſarum triphyllum, ſiliquis glabris peltatis geminis inarticulatis*; and Ray, *Onobrychis Zeylanica trifolia minor perennis.* It grows naturally in India. Biarti-culatum.

7. Hiſpid *Hedyſarum* is titled, *Hedyſarum foliis ternatis, leguminibus membranaceis lævibus integris, caule ramiſque hiſpidis.* It is a native of India. Viscidum.

8. Uncinated-podded *Hedyſarum* is titled, *Hedyſarum foliis ternatis nervoſis nudis, ſpicis ſeſſilibus, leguminibus diſpermibus obtectis acumine uncinatis.* Burman calls it, *Trifolium procumbens Zeylanicum hirſutum. loti facie*; Brown, *Trifolium procumbens, foliis ciliatis nervoſis, ſiliculis monoſpermibus acuminatis quinqueſtriatis*; alſo, *Trifolium ſuberectum ſubhirſutum, ſiliculis minoribus ſingularibus*; and Sloane, *Anonis non ſpinoſa minor glabra procumbens, flore luteo*; alſo, *Loto pentaphyllo ſiliquoſo ſimilis, anonis non ſpinoſa, foliis ciſti inſtar glutinoſis & odoratis.* It grows in Jamaica and Ceylon. Hama-tum.

C H A P. CXXIII.

HELICTERES, The SCREW TREE.

Species. OF this genus are,

1. Malabrian, or Common Screw Tree.
2. Carthagena Screw Tree.
3. Chineſe Screw Tree.
4. American Screw Tree.

Malabrian Screw Tree deſcribed. 1. Malabrian Screw Tree. The ſtem is woody, branching, and ten or fifteen feet high. The leaves are heart-ſhaped, oval, pointed, ſerrated, and downy underneath. The flowers come out, two or three together, from the ſides of the branches, on ſlender footſtalks; they are of a yellowiſh colour, and are ſucceeded by five hairy capſules, which are twiſted together in the manner of a ſcrew; and this gained the plant the appellation of Screw Tree.

Varieties. There are many varieties of this tree, differing in the height of growth, ſize of the leaves, and colour of the flowers. In ſome ſorts the flowers are white, in others yellow, and ſometimes they are beautifully ſpotted with black.

Carthagena Screw Tree, 2. Carthagena Screw Tree grows to fourteen or fifteen feet high. The leaves are heart-ſhaped, ſerrated, and a little downy underneath. The flowers are produced on footſtalks from the ſides of the branches; they are polyandrous, and of a yellowiſh-white colour, and ſucceeded by oblong, ſtraight capſules, containing the ſeeds, which ſometimes ripen in England.

Chineſe Screw Tree, 2. Chineſe Screw Tree grows to be ten or twelve feet high. The leaves are ſpear-ſhaped, narrow, pointed, entire, downy underneath, and grow on ſhort footſtalks. The flowers are but ſparingly produced along the ſides of the upper parts of the branches; they have ſlender footſtalks and downy cups; and are ſucceeded by ſtraight, oval, downy capſules containing the ſeeds, which ſometimes ripen in England.

and American Screw Tree deſcribed. 4. American Screw Tree. The leaves of this ſpecies are compoſed of five lobes. The flowers are dodecandrous, and deſtitute of petals; and they are ſucceeded by divaricated pods, containing the ſeeds.

Culture. Theſe plants are propagated by ſeeds, which muſt be ſown in the ſpring in pots filled with light, rich earth, and plunged into a hotbed of tanner's bark. When the plants are three inches high, they muſt be potted ſeparately, be ſhaded, watered, and allowed the uſual treatment due to tender plants all ſummer, and in the autumn muſt be taken into a good bark ſtove, where they muſt conſtantly remain. In winter they will require very little water; but in ſummer, watering in ſmall quantities at a time muſt by no means be neglected; eſpecially in hot weather. A free current of air alſo muſt be granted them in ſuch a ſeaſon.

Titles.

Isora.

1. The firſt ſpecies is titled, *Helicteres foliis cordatis ſerratis, fructu compoſito contorto.* In the *Hortus Cliffortianus* it is named ſimply, *Helicteres*; and in the *Hortus Malabricus*, *Iſora Murri.* Plukenet calls it, *Helicteres arbor Indiæ Orientalis, ſiliquâ varicoſâ & funiculi in modum contortu plicatâ*; alſo, *Helicteres arbor Indiæ Occidentalis, fructu majore*; Ray, *Frutex Indicus, fructu e ſtyli apice egreſſo ſextuplici funiculo in ſpiram convoluto conſtante*; and Sloane, *Abulito affinis arbor, althææ folio, cujus fructus eſt ſtyli apex acutus quatuor ſ. quinque ſiliquis hirſutis, funis ad inſtar in ſpiram convolutis.* It grows naturally in Malabar and Jamaica.

Carthaginensis.

2. The ſecond is titled, *Helicteres foliis cordatis ſerratis, floribus polyandris, fructu oblongo recto.* It is a native of Carthagena.

Angustifolia

3. The third ſpecies is titled, *Helicteres foliis lanceolatis integerrimis, fructu ovato recto.* It grows naturally in China.

Apetala.

4. The fourth ſpecies is titled, *Helicteres foliis quinquelobis, floribus dodecandris apetalis ſiliquis divaricatis.* It grows naturally in Mexico.

Claſs and Order in the Linnæan Syſtem. The characters.

Helicteres is of the Claſs and Order *Gynandria Decandria*; and the characters are,

1. Calyx is a monophyllous, tubular, ſemi-oval, oblique, coriaceous perianthium, cut into five unequal ſegments.

2. Corolla is compoſed of five oblong, equal petals, longer than the calyx, and affixed to the receptacle, having long, indented ungues.

The nectarium conſiſts of five ſmall ſpear-ſhaped leaves, like petals, ſurrounding the germen.

3. Stamina are ten or more very ſhort filaments, with oblong, lateral antheræ.

4. Pistillum conſiſts of an oval germen ſituated on a very long, recurved, filiforme receptacle, an awl-ſhaped ſtyle longer than the germen, and a ſubquinquifid ſtigma.

5. Pericarpium is five capſules, which in ſome ſpecies are ſpirally intorted, and contains one cell.

6. Semina. The ſeeds are many, and angular.

CHAP. CXXIV.

HELIOCARPUS.

THERE is at preſent only one ſpecies of this genus, called *Heliocarpus.*

The plant deſcribed.

The ſtem is woody, thick, ſends out many branches from the ſides, and grows to near twenty feet high. The leaves are heart-ſhaped, pointed, ſerrated, veined underneath, and grow alternately on long footſtalks. The flowers are produced in large cluſters from the ends of the branches; they are of a yellowiſh green colour, and are ſucceeded by browniſh capſules containing the ſeeds, which frequently ripen in England.

Culture.

This plant is propagated by ſowing the ſeeds in the ſpring in pots filled with rich, but light earth, and plunging them into a hotbed of tanner's bark. In about five or ſix weeks the plants will appear, when the greateſt judgment muſt be uſed to grant them ſufficient air to prevent their drawing weak, but not ſo much as to deſtroy them, for they are very tender on their firſt coming up. Slight ſprinklings of water muſt at proper intervals be allowed them; and when they are about three or four inches high, they muſt be planted ſeparately in pots filled with the like kind of rich earth as the ſeeds were ſown in. In this ſituation they muſt be watered and kept ſhaded until they have taken root; and after that muſt have plenty of freſh air, eſpecially in warm weather. In the autumn they muſt be taken into a very temperate ſtove, for a very ſmall ſhare of artificial heat will be ſufficient for them; and in this ſtove they may remain for a winter or two: After that, when they become woody, and ſtrong plants, they will ſucceed very well in a dry ſtove, will flower, and perfect their ſeeds.

Titles.

Americana.

This being the only ſpecies of which the genus conſiſts, it is called ſimply, *Heliocarpus.* Houſtoun calls it, *Montia arboreſcens, mori folio, fructu racemoſo.* It is a native of Vera Cruz.

Claſs and Order in the Linnæan Syſtem. The characters.

Heliocarpus is of the Claſs and Order *Dodecandria Digynia*; and the characters are,

1. Calyx is a coloured perianthium, compoſed of four long, broadiſh, patent, deciduous leaves.

2. Corolla. Four linear petals, much ſhorter than the calyx, and narrower, compoſe the corolla.

3. Stamina are ſixteen awl-ſhaped filaments nearly the length of the calyx, having linear, didymous, incumbent antheræ.

4. Pistillum conſiſts of a roundiſh germen, and two erect ſtyles the length of the ſtamina, with acute, diſtant ſtigmas.

5. Pericarpium is a turbinated, oval, pedunculated, compreſſed capſule, having a radiated border, and containing two cells.

6. Semina. The ſeeds are ſingle, and nearly oval.

CHAP.

CHAP. CXXV.

HELIOTROPIUM, TURNSOLE.

THERE are two ſpecies of this genus that require a ſtove to preſerve them in England, called,

Species. 1. True Maritime Woolly Heliotrope of Jamaica.

2. Small Gromwel-leaved Heliotrope of Jamaica.

True Maritime Woolly 1. The True Maritime Woolly Heliotrope grows to about ſix feet high. The ſtem is upright, woody, and divides near the top into a few branches, which grow erect. The leaves are long, narrow, obtuſe, downy, and are placed irregularly on the branches; they adorn the plant cloſely on every ſide, and as they drop off, the marks of them are left behind on the bark. The flowers are purple, reflexed, and have woolly cups divided into five parts; they grow from the ſides of the ſtalks, and open pretty freely, but are never ſucceeded by good ſeeds in our gardens.

and Small Gromwel-leaved Heliotrope deſcribed. 2. Small Gromwel-leaved Heliotrope. This is a low, upright ſhrub, rather more than a foot in height. The leaves are narrow, ſpear-ſhaped, hairy, acute pointed, hoary underneath, and ſit cloſe to the branches, without any footſtalks. The flowers come out from the ſides and ends of the ſtalks in ſlender, ſingle ſpikes; they are a little recurved, are white, and of ſmall figure.

Culture. Theſe plants are raiſed from ſeeds, which muſt be procured from the places where they naturally grow. The ſeeds, as ſoon as they are ripe, ſhould be preſerved in the ſandy mould of their own native country, and ſent over to England as ſoon as poſſible; for if they get dry, hardly any of them will grow. On their arrival, a proper mixture of ſand, lime-rubbiſh, drift or ſea-ſand, and freſh, undunged earth, ſhould be in readineſs, and each ſort ſhould bear an equal ſhare in the compoſition. A ſufficient number of pots ſhould then be filled with this compoſt, and the ſeeds ſhould be ſown therein, covering them down about half an inch deep: The pots ſhould be immediately plunged into a good hotbed of tanners bark, which will ſoon bring up the ſeeds. If there are many plants in a pot, they may be taken up when they are of ſize to remove, and each plant ſhould have its own pot: At their removal they ſhould have a good bark-bed, and be watered and ſhaded until they have taken root. As occaſion requires, they muſt be ſhifted into larger pots, plunging them always in the bark-bed; and they muſt never be brought out of the ſtove, being too tender to live abroad with us.

The firſt ſpecies is titled, *Heliotropium foliis linearibus obtuſis tomentoſis, pedunculis dichotomis, ſpicarum floribus quaternis, caule fruteſcente.* Sloane calls it, *Heliotropium arboreum maritimum tomentoſum, gnaphalii Americani foliis*; Plukenet, *Heliotropium, gnaphaloides littoreum fruteſcens, Americanum.* It grows naturally in the maritime parts of Jamaica and Barbadoes. Titles. Gnaphaloides.

The ſecond ſpecies is titled, *Heliotroprium, foliis lineari-lanceolatis piloſis, ſpicis ſolitariis ſeſſilibus.* Brown calls it, *Heliotropium fruticoſum hirſutum, foliis lanceolatis minoribus, ſpicis ſingularibus terminalibus*; and Sloane, *Heliotropium minus, lithoſpermi foliis.* It grows naturally in Jamaica. Fruticosum.

CHAP. CXXVI.

HERNANDIA, The JACK in a BOX TREE.

THERE are two ſpecies of this genus, called,

Species. 1. Sonorous *Hernandia*, or Jack in a Box.

2. Oriental *Hernandia.*

Sonorous Hernandia, or Jack-in-a Box deſcribed. 1. Sonorous *Hernandia*, or Jack in a Box. The trunk is robuſt, upright, branching, and grows to twenty or thirty feet high. The leaves are broad, peltated, ſmooth, and have ſtrong footſtalks. The flowers are produced from the upper parts of the branches; they are monoecious, and the females are ſucceeded by hard, globular nuts, incloſed in the large inflated, permanent perianthium, which being open at the top, admits the air; ſo that when the wind is high, and the tree full of fruit, a noiſy rattling and whiſtling is occaſioned, that may be heard to a conſiderable diſtance; and which probably gained this tree the appellation of *Jack in a Box Tree.*

Oriental Hernandia deſcribed. 2. Oriental *Hernandia.* This is a robuſt, branching tree, of a conſiderable height. The leaves are large, oval, and are not peltated in the manner of the former, but ariſe on footſtalks immediately from their baſe. The flowers have the ſame proportion with the former, and are ſucceeded by the like kind of noiſy fruit; but the perianthiums are not ſo large, and conſequently the tone is leſs powerful.

Culture. Theſe are propagated from the nuts, which muſt be procured from the countries where they naturally grow. They ſhould be ſown in pots, filled with rich, light, garden mould, and be plunged into a hot-bed of tanners bark. When the plants come up, they muſt be frequently ſprinkled with water; and when they are four inches high, muſt be planted ſeparately in pots, filled with the like kind of rich earth they have been raiſed in. In doing this, ſhake the mould out of the pots, and ſeparate the plants with the hands, preſerving as much mould about the roots as poſſible. Having planted them, plunge them again into the hotbed; give them ſome water to ſettle the mould to the roots; repeat this at intervals; and keep them ſhaded in the heat of the day at firſt. When they ſhew good ſigns of growth, they muſt have a large ſhare of air, eſpecially if the weather is hot; and in the autumn they muſt be taken into a good bark ſtove, where they muſt conſtantly remain, ſhifting them from time to time into larger pots, as often as they ſhall require it; keeping them warm in winter, and granting them much free air, and conſtant ſupplies of water, in hot weather in ſummer.

Titles. 1. The firſt ſpecies is titled, *Hernandia foliis peltatis.* Plumier calls it *Hernandia amplo hederæ folio umbilicato*; Plukenet, *Nux veſicaria oleoſa, foliis umbilicatis*; Rumphius, *Arbor regis*; and Petiver, *Balante.* It grows naturally in both the Eaſt and Weſt Indies.

Sonora.

Ovigera. 2. The ſecond ſpecies is titled, *Hernandia foliis ovatis baſi petiolatis.* Rumphius calls it, *Arbor Ovigera.* It grows naturally in Eaſt India.

Claſs and Order in the Linnæan Syſtem. *Hernandia* is of the Claſs and Order *Monoecia Triandria*; and the characters are,

The characters.

I. Male Flowers.

1. Calyx. The partial involucrum is compoſed of four oval, obtuſe, ſpreading leaves, and contains three flowers.

There is no perianthium.

2. Corolla conſiſts of ſix ſuboval, patent petals, the three interior ones being narrower than the others.

The nectarium conſiſts of ſix taper, capitated glands.

3. Stamina are three ſhort filaments, inſerted in the receptacle, having large, oblong, erect antheræ.

II. Female.

1. Calyx. The general involucrum is the ſame as in the males.

The perianthium is of one leaf, bell-ſhaped, whole, permanent, and ſituated below the germen.

2. Corolla conſiſts of eight petals placed on the germen; the four interior ones being narrower than the others.

The nectarii are four oboval glands.

3. Pistillum conſiſts of a roundiſh germen; a filiforme ſtyle, and a large, oblique, ſubinfundibuliforme ſtigma.

4. Pericarpium. The perianthium is very large, inflated, roundiſh, and contains the drupe within.

The drupe is juiceleſs, oval, eight-furrowed, and contains one cell.

5. Semen. The ſeed is a globular, ſlightly depreſſed nut.

CHAP. CXXVII.

HIBISCUS, SYRIAN MALLOW.

HIBISCUS affords us wonderful variety to ornament the different parts of our garden. Thoſe ſpecies which more immediately require the protection of the Stove are,

Species.
1. China Roſe.
2. Oval-leaved China Roſe.
3. Lime-leaved Indian *Ketmia.*
4. Scarlet-flowering Mexican Mallow.
5. Marſh Perennial *Ketmia.*

1. China Roſe. This name has been long uſed for this ſpecies, from the reſemblance the flowers have to that of the fineſt Roſe; and notwithſtanding the Roſe has long been termed the *flos florum*, it ſeems to be equalled if not out-vied by the ſpecies now before us. It is a native of the Eaſt, and is in the vegetable way the chief glory of Aſia. Their painters introduce it into moſt of their pieces; and their potters imitate them, by cauſing the figure of it to embelliſh the beſt porcelain. Look upon the beſt China punch-bowls, nay, China baſons and diſhes, and it is odds but you ſee the China Roſe there repreſented: In many of them they are very well done, and approach tolerably near to nature. In few of them they are ſo ill done, but that a pretty good idea of the plant may be had from them.

The China Roſe deſcribed. The China Roſe, then, will grow to a moderate tree: If it has been no way ſtunted in raiſing, you may expect it to grow to about fourteen feet in height. The main ſtalk is rather ſpongy and tender; but age hardens this: It naturally grows more ligneous, and acquires a ſtrength to ſupport its ſpreading branches, which form themſelves into an head with a pleaſing regularity. The leaves that garniſh this beautiful plant are broad, and rough to the touch; they are of a lively green colour on their upper ſurface, but pale below, and their edges are bluntly ſerrated; they are of a cordated figure, and are deeply divided into five acute parts; their footſtalks are moderately long, and they grow on the branches in the alternate way. But this ſhrub derives its chief excellence from the flowers, which are very large, and double; though there is a variety with ſingle flowers. They are produced in plenty from the wings of the ſtalks; they will be in full blow in November; and their colour, when in perfection, is a deep purple; though they are of various tinges, and the flower itſelf has three diſtinct appearances before it comes to maturity: For before it aſſumes a purple garb in its perfect ſtate, it is in its preceding ſtate, or when about half-blown, of a delicate red; and in the ſtate before that, or as it opens from the bud, it is of a milky white. The improvements of the Science have taught us how greatly thoſe have erred who called this a Roſe; for though it has a roſy look, yet, upon examining the ſtamina, we find it to belong to a different family. And let not the reader be ſurpriſed when we tell him, that this Roſe we have been hitherto treating of, which has been ſo long celebrated, and its due praiſes afforded it by all whoſe attention it has engaged, is no other than a Mallow. The flowers belong to that tribe: In its ſingle ſtate, each is compoſed of five large, ſpreading petals; the ſtamina are monadelphous; and the fruit is a blunt capſule of five cells.

2. Oval-leaved China roſe. This is a native of the Eaſt Indies, and the multiplicity of the petals, their form and luſtre, occaſion its being called alſo the *Roſe of China*: but it is entirely a diſtinct ſpecies, and of lower growth; but nevertheleſs of very little, if any inferior beauty — Oval-leaved China Roſe deſcribed.

to the other. It will riſe to the height of about eight feet, and naturally divides into many branches near the top. The leaves are of a pale green colour, ſmooth and ſoft to the touch; their figure is oval, and their edges are ſerrated; they are ſharp-pointed; they ornament the ſhrub in plenty, and are placed on long footſtalks on the branches. The flowers are large and beautiful; they are naturally double, and the petals which compoſe them are curled or waved at the edges; they are of a ſtrong red colour, and of the ſize of our largeſt Double Roſes. Nothing more need be added to recommend this ſpecies to the attention of the curious.

Lime-leaved Indian Ketmia deſcribed.

3. Lime-leaved Indian *Ketmia* will ariſe with a woody ſtem to the height of about ten feet. It divides into ſeveral branches near the top, and the young ſhoots are very downy. The leaves are cordated, and their edges are entire; their upper ſurface is of a fine green, but their under is very hoary: They are full of large veins, are acutely-pointed, and grow alternately on the branches. The flowers are of a whitiſh-yellow colour; they are produced in ſpikes from the ſides of the branches; and are ſucceeded by pointed capſules containing the ſeeds.

Scarlet-flowering Mexican Mallow deſcribed.

4. Scarlet-flowering Mexican Mallow alſo riſes with a woody, branching ſtem to the height of about ten feet. The leaves are ſmooth, and angular; they are of a cordated figure, and their edges are crenated. The flowers are of a delightful ſcarlet colour, but never expand themſelves: They grow ſingly on ſhort footſtalks from the wings of the ſtalks, and are ſucceeded by very beautiful, ſcarlet, viſcous berries, incloſing the capſules which contain the ſeeds.

Marſh Perennial Ketmia deſcribed.

5. Marſh Perennial *Ketmia*. The roots of this ſpecies are perennial; but the ſtalks die to the ground every year. They will grow to about a yard high, and are garniſhed with leaves of different figures. The lower ones are angular, and of a cordated figure; the upper ones are haſtated, and have their edges indented. The flowers are purple, with very dark bottoms; they are ſmall, and grow from the wings of the leaves on long footſtalks. There is a variety of this ſpecies with ſmooth, heart-ſhaped leaves, that are indented at their edges, and are very hoary underneath, which produces large fair flowers of a light purple colour, with dark bottoms; and as it uſually retains this difference from ſeeds, it is much ſought after by the Curious.

Culture.

All theſe ſorts are beſt propagated by ſeeds. A good hotbed ſhould be provided by the beginning of March. Let this be covered with good, light, rich garden mould, and ſow the ſeeds thinly thereon; then ſift ſome more fine mould over them to the depth of about three quarters of an inch. When the plants come up, great care muſt be taken to prevent their drawing up too weak; and when they are of ſize to tranſplant, each ſhould be taken up with a ball of earth, and ſet in a ſmall pot; which being done, the pots ſhould be ſet on a moderate hotbed, and the cavities filled up to the rims of the pots: They muſt have very gentle, but frequent waterings, and in hot weather muſt be ſhaded from the ſun. All this time they muſt have as much free air as poſſible; and when they have grown to a ſize to fill the pots, they muſt have larger. This may be effected without the plants being ſenſible of their removal. The roots may be turned out with all the earth to them, and ſet in ſeparate pots; and if theſe pots have the benefit of a freſh hotbed, it will be ſo much the better. In this ſituation it will be adviſeable to continue them all the ſeaſon, giving them all poſſible air in warm weather, and beſtowing on them frequent waterings. As the early colds advance, they muſt be removed into the ſtove; and when they are grown to a good ſize, they are tolerably hardy. They may be ſet abroad in ſummer, in warm, well-ſheltered places; and in winter will live very well in a good green-houſe: But, to have them in perfection, they muſt reſume their former place in the ſtove.

Titles.

1. China Roſe is entitled, *Hibiſcus foliis cordato-quinquangularibus obſoletè ſerratis, caule arboreo.* Moriſon calls it, *Althæa arborea, Roſa Sinenſis*; others ſimply, *Roſa Sinenſis.* It grows naturally in India. Mutabilis.

2. Oval-leaved China Roſe is entitled, *Hibiſcus foliis ovatis acuminatis ſerratis glabris, caule arboreo.* Breynius calls it, *Alcea Javanica arboreſcens, flore pleno rubicundo.* It grows naturally in India. Rosa Sinensis.

3. Lime-leaved India *Ketmia* is titled, *Hibiſcus foliis cordatis integerrimis, caule arboreo, calycum exteriore truncato.* Tournefort calls it, *Ketmia Indica, tiliæ folio.* It grows in India. Populneus.

4. Scarlet-flowering Mexican Mallow is named, *Hibiſcus foliis cordatis crenatis; angulis lateralibus extimis parvis, caule arboreo.* Dillenius calls it, *Malvaviſcus arboreſcens, flore miniato clauſo.* It grows common in Mexico. Malvaviscus.

5. Marſh Perennial *Ketmia* is titled, *Hibiſcus foliis inferioribus cordatis angulatis, ſuperioribus ſubhaſtatis, floribus ſubnutantibus, piſtillo cernuo.* It grows naturally in moiſt land about Venice. Pentacarpos.

CHAP. CXXVIII.

HIPPOCRATEA.

Species.

THIS genus conſiſts at preſent only of one ſpecies, called *Hippocratea*.

The plant deſcribed.

The ſtalk is ſlender, twiſts about any contiguous trees or ſhrubs, and grows to be twelve or fourteen feet high. The leaves are oval, crenated, and grow oppoſite to each other on footſtalks. The flowers are produced in panicles from the tops of the ſtalks; they appear in the ſummer, and are not ſucceeded by ripe ſeeds in England.

Culture.

This plant is propagated by ſowing the ſeeds on a hotbed in the ſpring. When the plants are fit to remove, they muſt be planted ſeparately in pots filled with fine garden mould, and be then plunged into a hotbed of tanner's bark. Here they muſt be ſparingly watered, and kept ſhaded until they have taken root; after that they muſt have more air, and, as they advance in height, and require ſtaking, they muſt be removed into the bark ſtove, where they muſt be trained up to a trellis, or proper ſtakes thruſt down for their ſupport. Over-watering is found very prejudicial to theſe plants; it muſt therefore be given them ſparingly in ſummer, and very little muſt be allowed them in winter.

Titles. Volubilis. There being no other ſpecies belonging to it, it is named ſimply, *Hippocratea*. Plumier calls it, *Coa ſcandens, fructu trigemino ſubrotundo*; and Loefling, *Bejuca pendulus, floribus paniculatis.* It grows naturally in America.

Claſs and Order in the Linnæan Syſtem. *Hippocratea* is of the Claſs and Order *Triandria Monogynia*; and the characters are,

The characters. 1. CALYX is a perianthium divided into five ſmall, roundiſh, obtuſe, deciduous, coloured parts.

2. COROLLA conſiſts of five oval petals ſubbilocular at the top.

3. STAMINA are three awl-ſhaped, erect filaments the length of the corolla, having broad, tranſverſely ſulcated antheræ.

4. PISTILLUM conſiſts of an oval germen, a ſtyle the length of the ſtamina, and an obtuſe ſtigma.

5. PERICARPIUM conſiſts of three large, obcordated, compreſſed capſules, having cells formed by two carinated, compreſſed valves.

6. SEMINA. The ſeeds are five, oblong, and have a membranaceous ala.

CHAP. CXXIX.

HIPPOMANE, MACHINEEL.

THIS genus conſiſts of three diſtinct ſpecies, called,

Species.
1. Machineel Tree.
2. Biglandulous Machineel.
3. Holly-leaved Machineel.

Machineel Tree deſcribed. 1. Machineel Tree. The trunk is large, covered with a ſmooth, brown bark, divides into many ſtrong branches near the top, and the tree grows to be near forty or fifty feet high. The leaves are oblong, oval, pointed, ſerrated, of a ſhining green colour, and grow on ſhort footſtalks. The flowers are monoecious, and the males are produced in katkins at the ends of the branches. The females ſtand ſingly, and are ſucceeded by large, globular fruit, as big as a ſmall Orange, and of a yellow colour when ripe.

Biglandulous 2. Biglandulous Machineel. This equals the ſize of the preceding ſpecies, in the thickneſs of the trunk, and height of growth. The leaves are oval, oblong, ſerrated, ſmooth, of a ſhining green colour, and have two ſmall glands at their baſe. The male flowers are produced in long katkins from the ends of the branches; and the females are ſucceeded by the fruit, which is large, and full of a cauſtic, poiſonous juice.

and Holly-leaved Machineel deſcribed. 3. Holly-leaved Machineel. The ſtem is robuſt, upright, divides into many branches near the top, and grows to about twenty feet high. The leaves are nearly oval, firm, of a ſhining green colour, and deeply indented on the edges; each indenture terminating in a ſharp ſpine in the manner of the common Holly. The male flowers come out in long katkins from the ends of the branches; and the females, which ſtand alone, are ſucceeded by tricoccous capſules containing the ſeeds.

Medicinal properties. Theſe trees, but more eſpecially the firſt two ſorts, abound with a milky, poiſonous juice, of ſo cauſtic a nature, that it will immediately raiſe bliſters on the ſkin, and even burn linen. The wood is extremely valuable, reſiſts the worms, takes a good poliſh, is ſought after for cabinets, and various curious purpoſes. It is ſaid that the Indians, in order to avoid danger from the juice in felling the wood, before they fell them, firſt make a fire round the trunks; by which the juice is in a great meaſure extracted; and that even then they are forced to cover their faces when working at them; for the leaſt part falling on the ſkin, or ſpurting into the eyes, raiſes inflammation in the one, and cauſes loſs of ſight, at leaſt for ſome conſiderable time, in the other.

Culture. Theſe plants are raiſed from ſeeds, which muſt be procured from the countries where they naturally grow. They muſt be ſown in pots filled with light, ſandy earth, and plunged into a hot-bed of tanner's bark. When the plants are three or four inches high, they muſt be potted ſeparately, be watered and kept ſhaded until they have taken root. They muſt have little water when young; for though the firſt ſort grows naturally in watery places in the Caribbees, it is found very prejudicial to them in our ſtoves, as it is to moſt plants that abound with a milky juice. In the autumn they muſt be taken into a good bark ſtove, where they muſt conſtantly remain, ſhifting them from time to time into larger pots, as often as they ſhall require it; keeping them warm in winter, and giving them much free air, and frequent watering, though in ſmall quantities at a time, in hot weather in ſummer.

Titles. Mancinella. 1. The firſt ſpecies is titled, *Hippomane foliis ovatis ſerratis.* Brown calls it, *Hippomane arboreum lacteſcens, ramulis ternatis, petiolis glandulâ notatis*; Plumier, *Mancanilla pyri facie*; Sloane, *Juglandi affinis arbor julifera lacteſcens venenata pyrifolia.* Commeline, *Malus Americana, laurocerasi folio, venenata*; and Ray, *Arbor venenata Mancinello dicta.* It grows naturally in the Caribbees.

Biglandulosa. 2. The third ſpecies is titled, *Hippomane foliis ovato-oblongis baſi biglanduloſis.* Brown calls it, *Sapium arboreum, foliis ellipticis glabris, petiolis biglandulis, floribus ſpicatis*; Jaquin, *Sapium aucuparium.* Plumier, *Mancanilla lauri foliis oblongis*; and Plukenet, *Tithymalus arbor Americana, mali medicæ foliis amplioribus tenuiſſimè crenatis, ſucco maximè venenoſo.* It grows naturally in the warm parts of America.

Spinosa. 3. The third ſpecies is titled, *Hippomane foliis ſubovatis dentato-ſpinoſis.* Plumier calls it, *Mancanilla aquifolii foliis*; and Plukenet, *Ilex, agrifolii folio, Americana.* It grows naturally in moſt of the warm parts of America.

Claſs and Order in the Linnæan Syſtem. *Hippomane* is of the Claſs and Order *Monoecia Monadelphia*; and the characters are;

I. Male flowers are collected into a terminal amentum.

The characters. 1. CALYX is a monophyllous, turbinated, ſmall, obtuſe perianthium, divided into two parts.

2. Corolla. There is none.

3. Stamina conſiſt of one filament the length of the calyx, with two antheræ divided into two parts.

II. The Female Flowers ſtand ſingly.

1. Calyx is a ſmall, trifid, caduous perianthium.

2. Corolla. There is none.

3. Pistillum conſiſts of a large oval germen, without any ſtyle, but a bifid, acute, reflexed, three-parted ſtigma.

4. Pericarpium is either a large, globular drupe, containing one cell, or elſe a tricoccous capſule.

5. Semen. The ſeed is a ligneous, irregular nut.

CHAP. CXXX.

HUGONIA.

THERE is only one ſpecies of this genus, called, *Hugonia*.

The plant deſcribed.

The ſtalk is woody, ſends out many prickly, greyiſh branches from the ſides, and grows to ten or twelve feet high. The leaves are oboval, and grow oppoſite to each other. The flowers come out in ſmall cluſters from the ends and ſides of the branches; they are large, of a yellow colour, and each is ſucceeded by a globular drupe, containing one ſtriated nut.

Culture.

This plant is propagated by ſeeds, procured from abroad. They muſt be ſown in pots filled with good, light garden mould, in the ſpring, and plunged into a hotbed of tanner's bark. When the plants are three or four inches high, they muſt be potted ſeparately, and be plunged again into a hotbed: They muſt be ſhaded at firſt, and afterwards have plenty of freſh air, eſpecially in hot weather, and all along muſt be duly watered; in the autumn they muſt be taken into a temperate bark-ſtove, and managed like other tender plants.

Titles.

Mystax.

Though there are at preſent no other ſpecies of this genus, it nevertheleſs ſtands with the title beſtowed on it in the *Flora Zeylanica*, namely, *Hugonia ſpinis oppoſitis revolutis*. In the *Hortus Malabricus* it is named, *Modira Canni*. Ray calls it, *Ægoceratos arbor Zeylanica, lauri fructu, cortice coſtum olente*; alſo, *Myſtax frutex baccifer Malabricus, fructu calyculato rotundo monopyreno*. It grows naturally in India.

Claſs and Order in the Linnæan Syſtem. The characters.

Hugonia is of the Claſs and Order *Monadelphia Decandria*; and the characters are,

1. Calyx is a perianthium compoſed of five oval, concave, coriaceous, permanent leaves.

2. Corolla conſiſts of five large, roundiſh, patent petals.

3. Stamina are ten awl-ſhaped filaments ſhorter than the corolla, growing together from the baſe to the middle, in form of a little pitcher, having didymous antheræ.

4. Pistillum conſiſts of a roundiſh germen, and five capillary ſtyles with capitated ſtigmas.

5. Pericarpium is a globular drupe.

6. Semen. The ſeed is a ſtriated nut.

CHAP. CXXXI.

HURA, The SAND-BOX TREE.

THERE is at preſent only one ſpecies of this genus, called, The Sand-Box Tree.

The plant deſcribed.

The trunk is upright, covered with a ſoft brown bark, divides into many branches near the top, and grows to be twenty feet high. The leaves are large, oblong, broad, heart-ſhaped at the baſe, pointed, ſinuated on the edges, of a beautiful ſtrong green colour on their upper ſide, and hang drooping on long, ſlender footſtalks; and theſe, together with the branches, abound with a milky juice. The flowers are monoecious, and the males are collected into oval katkins. Neither males nor females have any petals; but the females have a remarkably long ſtyle, with a large, funnel-ſhaped ſtigma, divided at the brim into ten obtuſe ſegments; and this has been by ſome injudiciouſly taken for a petal. The females are ſucceeded by a large, woody, globular, depreſſed fruit, elegantly wrought into twelve deep furrows, which ſeparate the cells, that burſt open with an elaſtic force; and the exploſion is ſo violent, as frequently to equal that of the diſcharge of a loaded piſtol. The fruit of this tree being cut off near the inſertion of the ſtalk, and the ſeeds taken out, is uſed as a Sand-box in the Weſt Indies; which gained the tree in thoſe parts the appellation of the Sand-Box Tree.

Culture.

This ſpecies is propagated by the ſeeds, which muſt be procured from the countries where they naturally grow. They ſhould be ſown in the ſpring in pots filled with light, freſh, rich earth, and plunged into a hotbed of tanner's bark. If the ſeeds are good, they will readily come up, when all care due to tender ſeedlings muſt accompany them until they are three or four inches high: Then the mould ſhould be ſhaken out of the pots, the plants ſeparated, and carefully planted ſingly in pots filled with the like kind of freſh, rich earth. They muſt be plunged again into a bark-bed, and watered and ſhaded until they have taken root, at which time the mats muſt be taken off; and they muſt have more air, according to the heat of the ſeaſon. In September they muſt be taken into a good bark ſtove, where they muſt conſtantly remain. As thoſe plants abound with a milky juice, they muſt be cautiouſly watered, eſpecially while young. In winter alſo they muſt have little water; but in ſummer, when they are grown tolerably ſtrong plants, the watering muſt be very frequent, and in a moderate quantity at a time; eſpecially if the weather is hot.

Titles.

Crepitans.

There being no other ſpecies belonging to it, it is named ſimply, *Hura*. Commeline calls it, *Hura Americana, abutili Indici folio*; Brown, *Hippomane arboreum ramulis ternatis, foliis cordatis crenatis*; John Bauhine, *Burau ex pluribus nucibus arboris Huræ*; and Hernandez, *Arbor crepitans*. It grows naturally in Mexico, Guayava, and Jamaica.

Claſs and Order in the Linnæan Syſtem.

Hura is of the Claſs and Order *Monoecia Monadelphia*; and the characters are,

The characters.

I. Male Flowers.

1. Calyx. The amentum is oval, obtuſe, and covered with the florets, ſitting cloſe, and patent.

The perianthium is compoſed of two ſuboval, ſeſſile, membranaceous leaves, embracing each other at the baſe, the lower one being the longeſt.

2. Corolla. There is none.

3. Stamina. There is one cylindrical filament, a little longer than the calyx, and peltated at the top. The antheræ are arranged in a double order; they are of an oval figure, and about twenty in each ſeries; ſit cloſe, and open on the outſide.

II. Female Flowers.

1. Calyx is a monophyllous, cylindrical, ſulcated, truncated, undivided perianthium, ſtraightly ſurrounding the germen.

2. Corolla. There is none.

3. Pistillum conſiſts of a roundiſh germen within the calyx, a long cylindrical ſtyle, and a large, infundibuliforme, plane, convex, coloured ſtigma, cut into ten equal, obtuſe ſegments.

4. Pericarpium is ligneous, globular, depreſſed; has twelve regular furrows, contains twelve cells, and burſts at the top with violent elaſtic force.

5. Semen. The ſeed is ſingle in each cell, compreſſed, nearly globular, and large.

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CHAP. CXXXII.

HYDROLEA.

Species.

THERE is only one ſpecies of this genus, called *Hydrolea*.

The ſtalks are herbaceous, prickly, ſend out branches alternately from the ſides, and grow to a foot and half high. The leaves are ſpear-ſhaped, clammy to the touch, ſomewhat waved on their edges, and ſit cloſe to the ſtalk. The flowers come out, a few together, from the ends of the branches on ſhort footſtalks, and are ſucceeded by oval capſules, containing the ſeeds.

Culture.

This is propagated by parting of the roots, which may be done at any time of the year; though the beſt ſeaſon is the ſpring; and the roots being ſet ſeparately in pots, ſhould have the benefit of a hotbed of tanner's bark to bring them forward. This ſpecies grows naturally in moiſt and watery places in the warm parts of America; ſo that unleſs they have conſtant ſupplies of that element, they will not thrive in theſe parts. The Gardener, therefore, is directed to water the plants in the hotbed once a day; and when they are hardened to bear the air, and the weather is hot in the ſummer, twice a day. In the autumn they muſt be taken into a bark ſtove, and in winter they will do with watering every other day; but in ſummer, they muſt have plenty of freſh air, and a good watering every day, or oftener, as the weather directs.

Titles.

Spinosa.

There being no other ſpecies belonging to this genus, it is termed ſimply, *Hydrolea*. Lœfling calls it, *Planta lacuſtris ſ. paluſtris ſpinoſa*. It grows naturally in America.

Claſs and Order in the Linnæan Syſtem.

Hydrolea is of the Claſs and Order *Pentandria Digynia*; and the characters are,

The characters.

1. Calyx is a perianthium, compoſed of five awl-ſhaped, erect leaves.

2. Corolla is one rotated, bell-ſhaped petal. The tube is ſhorter than the calyx. The limb is ſpreading, and divided into five oval, incumbent ſegments.

3. Stamina are five awl-ſhaped filaments, cordated at the baſe, having oblong, curved, incumbent antheræ.

4. Pistillum conſiſts of an oval germen, and two filiforme patent ſtyles, with truncated ſtigmas.

5. Pericarpium is an oval capſule, formed of two valves, and containing two cells.

6. Semina. The ſeeds are many, very ſmall, and imbricated; the receptacle is oval, and large.

CHAP. CXXXIII.

HYMENÆA, The LOCUST TREE, or *COURBARIL.*

THERE is only one ſpecies of this genus, called, The Locuſt Tree, or *Courbaril.*

The plant deſcribed. The trunk is large, of a ruſſet colour, divides into many branches, which ſpread themſelves every way, and the tree grows to be forty or fifty feet high. The leaves grow two together on a footſtalk, and join at their baſe; they are rounded on their outſide, ſtraight within, pointed, ſmooth, of a firm ſubſtance, and ſtand alternately. The flowers are produced in looſe ſpikes from the ends of the branches; they are of a beautiful yellow colour ſtriped with purple, and are followed by large, fleſhy, ligneous, purpliſh-coloured pods, containing the ſeeds.

That fine, tranſparent, amber-coloured reſin called Gum *Anime* is collected from this tree. It is ſeldom uſed in medicine here, but is in great requeſt among the Indians in fumigations. The wood of this tree is excellent timber, and the gum or reſin affords a fine varniſh.

Culture. This plant is propagated by ſowing the ſeeds ſingly in pots filled with light, rich earth, and plunging them into a hotbed of tanner's bark. If the ſeeds are good, they will readily come up; and before the roots have well filled the pots, they ſhould be ſhifted into larger ones, obſerving carefully to turn the mould out of the pots, but not to looſen it from the roots; then place them in a larger pot, half filled with mould, and filling up the ſides with the mould, gently preſſing it down: This precaution is the more neceſſary, becauſe theſe trees bear tranſplanting very ill, if the mould is taken from the roots. They muſt be again plunged into the bark bed; and when the roots have almoſt filled the pots, they muſt be freſh potted, as before; and this muſt be regularly repeated, otherwiſe they will make but ſmall progreſs, and become ſtunted in their growth. In the autumn they muſt be taken into a good bark ſtove, keeping them very warm, and giving them little water in winter, and affording them treatment ſimilar to other tender plants.

Titles. Courbaril. There being no other ſpecies belonging to this genus, it is named ſimply, *Hymenæa.* Piſo calls it, *Itaiba*; Plumier, *Courbaril bifolia, fructu pyramidato*; Plukenet, *Ceratia diphyllos Anteguana, ricini majoris fructu nigro, ſiliquâ grandi incluſo*; and Caſpar Bauhine, *Arbor ſiliquoſa ex quâ Gummi Ellemi.* It is common in moſt parts of the Weſt Indies.

Claſs and Order in the Linnæan Syſtem. The characters. *Hymenæa* is of the Claſs and Order *Decandria Monogynia*; and the characters are,

1. Calyx is a monophyllous, unequal perianthium, indented in five parts at the top.

2. Corolla is papilionaceous.

The vexillum is large, and reflexed.

The alæ are ſpear-ſhaped, and ſmall.

The carina is awl-ſhaped, longer than the alæ, and points upwards.

3. Stamina. There are ten filaments.

4. Pistillum. The germen is oblong.

5. Pericarpium is a large, oval, oblong, obtuſe pod, containing one cell.

6. Semina. The ſeeds are many, oval, and ſurrounded with fibres, and a farinaceous matter.

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CHAP. CXXXIV.

HYPOXIS.

THERE is one ſpecies of this genus for the ſtove, called, Trailing *Hypoxis.*

The plant deſcribed. The radical leaves are long, narrow, plane, and graſſy. The ſtalks are ſlender, about ſix inches long, and unleſs ſupported lie on the ground. The flowers come out in ſmall heads from the tops of the ſtalks; they are of a yellow colour, appear in June and July, and the ſeeds ripen in Auguſt and September.

Culture. This plant is propagated by ſowing the ſeeds on a hotbed in the ſpring. When the plants are fit to remove, each ſhould be ſet in a ſeparate pot, and plunged into a ſecond hotbed, where they ſhould be watered and ſhaded at firſt, but as the weather encreaſes they ſhould have plenty of air. The uſual care neceſſary for tender plants in their infant ſtate muſt attend them until the autumn, when they muſt be removed into the bark ſtove, and have ſimilar treatment with other tender plants of the like nature.

Titles. Decumbens. This ſpecies is titled, *Hypoxis piloſa, capſulis clavatis.* Brown calls it, *Ornithogalum, foliis gramineis, floribus geminatis, pedunculis longiſſimis alaribus*; and Plumier, *Crocus foliis & radice ſcorzoneræ.* In Miller's Dictionary it is termed, *Anthericum ſeſſile, foliis linearibus planis, caule decumbente.* It grows naturally in Jamaica, and moſt of the Weſt Indian Iſlands.

CHAP. CXXXV.

JATROPHA, CASSADA, or CASSAVA.

THIS genus conſiſts of the following ſpecies, viz.

Species.
1. Eſculent *Jatropha*, or the Caſſada Plant.
2. Stinking *Jatropha*.
3. Herbaceous *Jatropha*.
4. Multifid *Jatropha*.
5. Heart-leaved *Jatropha*.
6. Oval *Jatropha*.
7. *Goſſypium*-leaved *Jatropha*.

Eſculent, 1. Eſculent *Jatropha*, or the Caſſada Plant. The root is thick, and fleſhy. The ſtalk is woody, upright, firm, full of pith, and grows to be ſix or eight feet high. The leaves are palmated, and compoſed of ſeven ſpear-ſhaped, pointed, entire, ſmooth lobes, which join at their baſe, and grow alternately on long footſtalks. The flowers are produced in umbels from the tops of the ſtalks; they are monoecious, ſmall, and of a white or yellow colour; and the females are ſucceeded by roundiſh, three-furrowed capſules containing the ſeeds. This ſpecies is rather of a poiſonous quality; but when the juice, in which the poiſon conſiſts, is dried out of the roots, they are then ground into flour, and made into bread, which is ſaid to be a very nouriſhing, and hearty food: For theſe purpoſes, therefore, it is cultivated in conſiderable quantities in many parts of America.

Stinging, 2. Stinging *Jatropha*. The root is thick, and fleſhy. The ſtalk is upright, ligneous, full of pith, divides into ſeveral prickly branches, and grows to be five or ſix feet high. The leaves are palmated, large, conſiſt of five lobes, which are ſinuated or cut on their ſides, armed with ſtinging ſpines, and grow on long, ſtinging, prickly footſtalks. The flowers are produced in umbels from the ends of the branches; they have long naked footſtalks; and the ſeeds frequently ripen in England, and are of a ſnowy white colour.

Herbaceous, 3. Herbaceous *Jatropha*. The root is thick, and fleſhy. The ſtalk is upright, taper, herbaceous, branching, two feet high, and armed on every ſide with ſtinging ſpines. The leaves alſo have this ſtinging property, and are compoſed of three or five lobes, which are jagged on their edges, join at their baſe, and ſpread themſelves like the fingers of the hand. The flowers are produced in umbels from the ends of the branches: they are of a white colour, and their cups are armed with the like kind of ſtinging ſpines as the leaves. The females are ſucceeded by roundiſh three-furrowed capſules, containing the ſeeds, which frequently ripen in England.

Multifid, 4. Multifid *Jatropha*. The ſtalk is ligneous, ſoft, thick, full of pith, of a greyiſh colour, divides into ſeveral branches, and grows to be eight or ten feet high. The leaves are large, of a ſhining green colour on their upper ſide, ſmooth, divided into many parts, which are elegantly cut or jagged on their edges, and grow on ſtrong footſtalks. The flowers are produced in umbels from the ends of the branches; they have long footſtalks, and are of a bright ſcarlet colour; and theſe, together with their large and elegant leaves, conſtitute a plant of exquiſite beauty. The ſeeds of this ſpecies are a ſtrong purge.

Heart-leaved, 5. Heart-leaved *Jatropha*. The ſtem is woody, ſtrong, upright, branching, and twelve or fourteen feet high. The leaves are heart-ſhaped, angular, and acute-pointed. The flowers are produced in umbels from the ends of the branches; they are of a greeniſh colour, and of inferior beauty to any of the preceding ſorts; and the females are ſucceeded by pendulent capſules containing the ſeeds; which are of a black colour when ripe. The ſeeds of this ſpecies alſo are ſtrongly purgative.

Oval-leaved, 6. Oval-leaved *Jatropha*. The ſtem is woody, full of pith, branching, and eight or ten feet high. The leaves are large, oval, undivided, and ſlightly indented on their edges. The flowers are produced in umbels from the top of the ſtalk, and are of a white colour. The ſeeds, when ripe, are black.

and Goſſipium-leaved Jatropha deſcribed. 7. *Goſſypium* leaved *Jatropha*. The ſtalk is ligneous, branching, four or five feet high, of a purpliſh colour, and has branches with briſtly hairs growing in cluſters at the joints. The leaves are divided into five oval, entire, acute parts, and grow on long footſtalks. The flowers are produced in umbels from the ends of the branches; they have long, ſlender, naked footſtalks, and are of a dark purple colour.

Culture. Theſe ſpecies will grow by cuttings, eſpecially the firſt ſort, which is the only way practiſed in the Weſt Indies in raiſing it for food; but as many of them are ſoft, pithy, and abound with a milky juice, they are apt to rot here, eſpecially if they have too much water; neither are the plants ſo beautiful as thoſe raiſed from ſeeds. And as the ſeeds readily come up, and frequently ripen in England, and when that does not happen may be eaſily procured by our traders from America, it is the beſt method I would recommend for raiſing theſe plants. Having thus far obtained good ſeeds, let them be ſown in pots filled with freſh, light earth, and be plunged into a hotbed of tanner's bark. When the plants are three or four inches high, let them be potted ſeparately, be again plunged into the bark bed, and ſlightly watered, and kept ſhaded until they have taken root. In the autumn they muſt be taken into a good bark ſtove; keeping them warm in winter, giving them little water at that ſeaſon, and managing them at all times in a manner ſuitable to tender plants.

Titles. 1. The firſt ſpecies is titled, *Jatropha foliis palmatis; lobis lanceolatis integerrimis lævibus.* Brown calls it, *Jatropha foliis palmatis pentadactylis, radice conico-oblongo cernuè ſublacteâ*; Sloane, *Ricinus minor, viticis obtuſo folio, caule verrucoſo, flore pentapetalo albido, ex cujus radice tuberoſâ ſucco venenato turgidâ, Americani panem conficiunt*; Caſpar Bauhine, *Manihot inodorum, ſ. Yucca foliis cannabinis*; alſo, *Arbor ſucco venenato, radice eſculentâ*; and John Bauhine, *Manihot Theveti, Yucca & Caſſavi.* It grows naturally in America. Manihot.

2. The ſecond ſpecies is titled, *Jatropha foliis palmatis dentatis aculeatis.* Commeline calls it, *Ricinus tithymaloides Americanus lacteſcens & urens, floribus albis*; and Plukenet, *Ricinus lacteſcens, fici foliis: ſpinulis mordaceis armatis* It is a native of the Braſils. Urens.

3. The

Herbacea 3. The third ſpecies is titled, *Jatropha aculeata, foliis trilobis, caule herbaceo.* Houſtoun calls it, *Juſſieuia herbacea ſpinoſiſſima urens, foliis digitatis & laciniatis.* It is a native of Vera Cruz.

Multifida. 4. The fourth ſpecies is titled, *Jatropha foliis multipartitis lævibus, ſtipulis ſetaceis multifidis.* Brown calls it, *Jatropha aſſurgens, foliis digitatis: laciniis anguſtis pinnatifidis*; Breynius, *Ricinoides Americanus, tenuiter diviſo folio*; Caſpar Bauhine, *Avellana purgatrix*; and Dillenius, *Manihot folio tenuiter diviſo.* It grows naturally in moſt parts of the Weſt Indies.

Curcas. 5. The fifth ſpecies is titled, *Jatropha foliis cordatis angulatis.* Brown calls it, *Jatropha aſſurgens, ficûs folio, flore herbaceo*; Caſpar Bauhine, *Ricinus Americanus major, ſemine nigro*; and Sloane, *Ricinus ficûs folio, flore pentapetalo viridi, frûctu lævi pendulo.* It grows naturally in all the Weſt Indian Iſlands.

Moluccana 6. The ſixth ſpecies is titled, *Jatropha foliis ovatis integerrimis ſubdentatis.* Herman calls it, *Nux Moluccana, folio inſtar ricini, ſemine nigro.* It grows naturally in Ceylon and the Molucca Iſlands.

Gossypifolia. 7. The ſeventh ſpecies is titled, *Jatropha foliis quinquepartitis: lobis ovatis integris: ſetis glandulosis ramoſis.* Brown calls it, *Jatropha humilior ſetis ramoſis, foliis trilobis ſ. quinquelobis denticulatis*; Sloane, *Ricinus minor, ſtaphiſagriæ folio, flore pentapetalo purpureo*; Commeline, *Ricinus Americanus, perennis, floribus purpureis, ſtaphiſagriæ foliis*; Plukenet, *Ricinus Indicus piloſus trifidus ſ. quinquefidus, floſculis atro purpureis*; and Caſpar Bauhine, *Ricinus Americanus, folio ſtaphiſagriæ.* It grows naturally in moſt of the Weſt India Iſlands.

Claſs and Order in the Linnæan Syſtem.

Jatropha is of the Claſs and Order *Monoecia Monadelphia*; and the characters are,

The characters.

I. Male Flowers.

1. CALYX. The perianthium is very ſmall.

2. COROLLA is one hypocrateriforme petal.

The tube is very ſhort.

The limb is divided into five roundiſh, patent, concave parts.

3. STAMINA. There are ten awl-ſhaped, erect filaments, ſhorter than the corolla, and joined together, five of them alternately ſhorter than the others; and they have roundiſh, verſatile antheræ.

II. Female flowers in the ſame umbel with the males.

1. CALYX. There is none.

2. COROLLA conſiſts of five roſe-like petals.

3. PISTILLUM conſiſts of a roundiſh, triſulcated germen, and three dichotomous ſtyles, with ſimple ſtigmas.

4. PERICARPIUM is a roundiſh, tricoccous capſule, containing three cells.

5. SEMINA. The ſeeds are ſingle in each cell, and roundiſh.

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C H A P. CXXXVI.

ILLECEBRUM, MOUNTAIN KNOT GRASS.

Species. THE more tender ſpecies of this genus are,

1. Vermicular *Gomphrena*, or Globe Amaranth.
2. *Ficoidea Gomphrena*, or Globe Amaranth.
3. Seſſile *Gomphrena*, or Globe Amaranth.
4. Polygonoide *Gomphrena*, or Globe Amaranth.

Vermicular, 1. Vermicular *Gomphrena*, or Globe Amaranth. The ſtalks of this ſpecies are ſmooth, lie on the ground, and ſtrike root at the joints. The leaves are fleſhy, ſucculent, taper, narrow, and of a lucid green colour. The flowers are produced on footſtalks, from the ends and ſides of the ſtalks, in ſmall, oblong, ſmooth heads; they are of a ſilvery white colour, and retain their beauty for many years after being gathered.

Ficoidea, 2. *Ficoidea Gomphrena*, or Globe Amaranth. The ſtalks of this plant alſo are creeping, ſmooth, and ſtrike root at the joints. The leaves are oval, ſpear-ſhaped, and grow oppoſite to each other on footſtalks. The flowers are produced from the ſides of the ſtalks in ſmall, roundiſh, ſilvery heads, ſitting cloſe, having no footſtalks; they appear in July and Auguſt, and the ſeeds ripen in the autumn.

Seſſile, 3. Seſſile *Gomphrena*, or Globe Amaranth. The ſtalks of this plant lie alſo on the ground, are ſmooth, and ſtrike root at the joints. The leaves are ſpear-ſhaped, ſoft, and grow oppoſite to each other on ſhort footſtalks. The flowers come out in ſmall, oblong heads from the wings of the leaves. They are ſmooth, of a ſilvery white colour, and ſit cloſe, having no footſtalks; they appear in July and Auguſt, and are ſometimes ſucceeded by ripe ſeeds in our gardens.

and Polygonoide Gomphrena deſcribed. 4. Polygonoide *Gomphrena*, or Globe Amaranth. The ſtalks of this plant are extremely rough and hairy, divide by pairs, lie on the ground, and ſtrike root at the joints. The leaves are oval, ſpear-ſhaped, hairy, and grow on footſtalks at the joints. The flowers come out in ſmall, round, naked heads from the joints; their colour is white; they appear in July and Auguſt; and the ſeeds ripen in the autumn.

Culture. Theſe ſorts propagate themſelves very faſt by their trailing ſtalks, which ſtrike root at the joints. In order, therefore, to encreaſe them, let ſeveral pots, filled with light, freſh mould, be ſet contiguous to the pots in which the reſpective plants are growing. The branches will ſoon overſpread the pots, and ſtrike root into the mould; which when effected, they ſhould be ſeparated from the old plants; and the raiſed plants may be removed to any other ſtove, or ſuch part of the ſtove it is intended to occupy.

They are alſo raiſed from ſeeds in the manner as has been directed for the different ſpecies of *Gomphrena*; to which, if the reader has got good ſeeds, he is referred for the practice; and their ſtation ſhould be in a temperate ſtove.

Titles. Vermiculatum. 1. Vermicular *Gomphrena*, or Globe Amaranth, is titled, *Illecebrum caulibus repentibus glabris, foliis ſubteretibus carnoſis, capitulis oblongis glabris terminalibus.* In the former edition of the *Species Plantarum* it is termed, *Gomphrena foliis carnoſis obtuſis capitulis oblongis terminatibus.* Vaillant calls it, *Caraxeron humile, cepeæ foliis,* *capitulis albis*; Brown, *Gomphrena repens rufeſcens, foliis linearibus craſſiuſculis*; Herman, *Amaranthoides humile Curaſſavicum, cepeæ foliis lucidis, capitulis albis*; Breynius, *Amarantho affinis aizoides, ſ. amaranthoides minor Americana procumbens, ſedi teretifolii foliis et facie, flore oblongo niveo*; and Ray, *Trifolii ſpicâ crithmum marinum non ſpinoſum Braſilienſe.* It grows naturally in moſt of the Weſt Indian iſlands.

Ficoideum.

2. *Ficoidea Gomphrena*, or Globe Amaranth, is titled, *Illecebrum caulibus repentibus glabris, foliis lato-lanceolatis petiolatis, capitulis orbiculatis pubeſcentibus.* In the *Syſtema Naturæ* it is termed, *Gomphrena ficoidea.* Plumier calls it, *Gomphrena marina repens, polygoni folio, capitulis argenteis*; and Van Royen, *Gomphrena caule diffuſo repente, capitulis ſeſſilibus.* It grows naturally on the ſea-ſhores of moſt of the Weſt Indian iſlands.

Seſsile.

3. Seſſile *Gomphrena*, or Globe Amaranth, is titled, *Illecebrum caulibus repentibus glabris, foliis lanceolatis ſubſeſſilibus, capitulis oblongis glabris.* In the former edition of the *Species Plantarum* it is termed, *Gomphrena ſeſſilis.* Plukenet calls it, *Amaranthoides humile Maderaſpatanum, capitulis candicantibus, folio molli*; and Burman, *Amaranthus humilis, foliis oppoſitis, floſculis ex alis glomeratis.* It grows naturally in the Eaſt Indies.

Polygonoides.

4. Polygonoide *Gomphrena*, or Globe Amaranth, is titled, *Illecebrum caulibus repentibus hirtis, foliis lato-lanceolatis petiolatis, capitulis orbiculatis nudis.* In the former edition of the *Species Plantarum* it is termed, *Gomphrena polygonoides.* Brown calls it, *Herniaria hirſuta repens ad nodos alternos florida*; Herman, *Amaranthoides humile Curaſſavicum, foliis polygoni*; and Plumier, *Amaranthoides marina hirſuta, halimi folio.* It grows naturally on the ſea ſhores of the Weſt Indies.

CHAP. CXXXVII.

INDIGOPHERA, INDIGO.

Species.

OF this genus we may introduce into our Stove,

1. Smooth Round-podded Wild Indigo.
2. Hoary Four-cornered-podded Wild Indigo.

Smooth Round-podded

1. Smooth Round-podded Wild Indigo will grow to be four or five feet high. The ſtalks are upright, round, and firm. The leaves are pinnated; ſome of them are compoſed of two pair of lobes, terminated by an odd one; and others again conſiſt of three lobes only. The flowers are produced from the ſides of the ſtalks in looſe ſpikes, and are ſucceeded by ſmooth, ſhort, round, horizontal pods.

and Hoary Four-cornered-podded Wild Indigo deſcribed.

2. Hoary Four-cornered-podded Wild Indigo riſes, with an upright, ſhrubby ſtalk, to the height of about ſix feet. The leaves are its greateſt ornament, for they are ſilvery or hoary, with a kind of ſilky down. The flowers grow from the ſides of the branches in ſhort ſpikes; they are of a kind of light purple colour, and will be ſucceeded by rough, woolly, four-cornered, pendulous pods.

Culture.

Theſe plants muſt be raiſed by ſeeds on a good hotbed, in the ſpring. On this they muſt be ſown thin; and, when they are about ſix inches high, muſt be taken up with a ball of earth to each root, and planted in pots; which pots ſhould likewiſe have the benefit of a ſecond hotbed. When the heat of this is abated, they may be plunged in the bark bed in the ſtove, where they ſhould conſtantly remain.

They do not always produce good ſeeds with us; ſo that when theſe are wanting, they muſt be procured from abroad. If you are deſirous of keeping up the ſucceſſion, (for the plants are but of ſhort duration) and to keep up the ſtock in perfection, the ſeeds ought to be ſown every two or three years.

Titles.

Glabra.

1. Smooth Round-podded Wild Indigo. This is titled, *Indigophera leguminibus horizontalibus teretibus, foliis pinnatis ternatiſque.* Plukenet calls it, *Colutea ſiliquoſa glabra, ternis quinisve foliis, Maderaſpatana, ſemine rubello*; and Rheede, *Nirpulli.* It grows naturally in India.

Hirsuta.

2. Hoary Four-cornered-podded Wild Indigo. This is titled, *Indigophera leguminibus pendulis lanatis tetragonis.* Burman calls it, *Aſtragalus ſpicatus, ſiliquis pendulis hirſutis, foliis ſericeis*; and Rheede, *Kattu-tagera.* It grows naturally in India.

CHAP. CXXXVIII.

IPOMOEA, *QUAMOCLIT.*

THE ſpecies of *Ipomoea*, beautiful as they are, are for the moſt part too tender for the open air, and too rambling, or of too ſhort duration, to merit the care and expenſive management of the Stove. In our largeſt ſtoves, however, we muſt admit ſome of the moſt noted ſorts, and give them all the room we are able to ſpare; and muſt alſo, in our largeſt ſtoves (for where they are but ſmall, the choiceſt and moſt adapted ſtove plants muſt be ſelected for the purpoſe) admit thoſe, which, though they are inferior in beauty to few, are nevertheleſs valuable in theſe places, on account of their ſhort continuation. In our large ſtoves, therefore, let us cultivate,

Species.

1. Spaniſh Woodbine.
2. Indian Climber.
3. American Jeſſamine.
4. Violet *Quamoclit.*
5. Trilobate *Ipomoea.*
6. *Hepatica*-leaved *Ipomoea*, or Tiger's Foot.
7. Campanulated *Quamoclit.*

Spaniſh Woodbine deſcribed.

1. Spaniſh Woodbine hath a very large, round, tuberous root, from which ariſe ſeveral angular, purple, tortuous ſtalks, which divide into many ſmall branches, and theſe likewiſe divide again into others; all of which will wind and twiſt themſelves about trees to the height of forty feet, or more. The leaves ſtand ſingly on ſhort pedicles, are palmated, and each is divided into ſeven ſpear-ſhaped lobes, which are entire. The flowers grow from the wings of the leaves on long footſtalks, each peduncle ſupporting three flowers: Theſe are large, and of a bright yellow colour; they are very fragrant, and are ſucceeded by large, roundiſh capſules containing the ſeeds.

Indian Climber deſcribed.

2. Indian Climber hath a prickly, branching ſtalk, which will wind about, and overtop trees to a great height; the ſmaller branches are prickly, and even the footſtalks of the leaves have obtuſe ſpines. The leaves are of a cordated figure, and very large; they are acutely-pointed, and their edges are entire. The flowers grow by threes from the ſides of the branches; they are very large and beautiful, and are ſucceeded by large capſules containing the ſeeds.

American Jeſſamine deſcribed.

3. American Jeſſamine. This ſpecies has long gone by that name, though very improperly. It will ariſe, with its twining ſtalks, to the height of about ten feet. The leaves are remarkably beautiful; they are pinnatifid; each of them is compoſed of ſeveral pairs of long and very narrow folioles, which are terminated by an odd one. The flowers are of a delightful ſcarlet colour, grow ſingly from the ſides of the ſtalks on ſlender footſtalks, and are very large, the tube being long, and the brim expanding itſelf in a proportional and very agreeable manner; ſo that they, together with their fine leaves, conſtitute a beauty exceeded by few plants. This is an annual in our ſtoves.

Violet Quamoclit deſcribed.

4. Violet *Quamoclit* will twine itſelf about any thing that is near, to the height of about twelve feet. The leaves are cordated, their edges are entire, and they are very large and beautiful. The flowers grow in cluſters, from the ſides of the ſtalks, on ſlender footſtalks, and are of a blue colour: And whereas the brims of the flowers of this genus are uſually divided into five ſegments, thoſe of this ſpecies are undivided or entire; a very ſingular difference, and what ſufficiently conſtitutes it a diſtinct ſpecies.

Trilobate Ipomoea deſcribed.

5. Trilobate *Ipomoea* riſes with an angular, twining ſtalk to the height of about twelve feet. The leaves are cordated, and each of them is deeply divided into three lobes; the middle one is oval, and the two lateral ones are nearly cordated; all are very ſmooth, and their edges are entire. The flowers grow from the ſides of the branches on longiſh footſtalks, each peduncle ſupporting three flowers, which are cylindrical, and of a deep violet colour. The ſtyle has two globoſe ſtigmas; and the fruit, that ſucceeds the flower, is a very hairy capſule. This ſpecies is annual with us.

Hepatica-leaved Ipomoea deſcribed.

6. *Hepatica*-leaved *Ipomoea* is known among gardeners by the cant name of Tyger's Foot. This is of lower growth than the others, ſeldom riſing above four feet. The ſtalks have the ſame twining property with the other ſpecies, and are very hairy. The leaves are trilobate, hairy, and very much reſemble thoſe of the *Hepatica*. The flowers are aggregate; they grow in cluſters in a five-cornered involucrum, are ſmall, and of a purple colour. Their time of opening is in evenings only.

Campanulated Quamoclit deſcribed.

7. Campanulated *Quamoclit* will twine itſelf about trees to a conſiderable height. The leaves are cordated, and the flowers are produced from the ſides of the branches on long footſtalks; each peduncle ſupports many flowers, and has a double perianthium. The flowers of this genus are infundibuliforme, but thoſe of this ſpecies are bell-ſhaped, are of a thicker conſiſtence than thoſe of the other ſorts, and are divided into five parts.

Culture.

All theſe ſorts are beſt raiſed by ſeeds. This muſt be done by ſowing a few of each, in the ſpring, in ſmall-pots, and then plunging them into a hotbed. If too many plants come up in each pot, they muſt be thinned; they muſt be frequently ſprinkled with water, and have as much air as poſſible, to prevent their drawing up weak. The ſtalks will ſoon ſhew their twining tendency, at which time ſmall ſticks muſt be placed for them to twine about. When the heat of the bed is abated, another hotbed muſt be got ready; the plants muſt be then ſhaken out of theſe pots, with the mould at the roots, and ſet in larger ones; and theſe pots muſt be plunged into this ſecond hotbed: Water them at the time of removal, and repeat this ſparingly twice a-day, and ſhade them in hot weather. As they advance in height, the glaſſes muſt be raiſed; and, when they get too tall for the frames, they muſt be ſet in the ſtove; and there they will flower, and moſt of them will perfect their ſeeds, though all of them, except the firſt two ſorts, are of ſhort duration with us. The firſt two ſorts will laſt for years, and they require a very tall ſtove to ramble in; otherwiſe they will produce but very few flowers, eſpecially the Spaniſh Woodbine, which ſeldom flowers before it is grown to be very large; which makes theſe plants leſs deſirable, becauſe too ungovernable for the neat order and management of our ſtoves of the uſual proportion and ſize.

Titles.

1. Spaniſh Woodbine is titled, *Ipomoea foliis palmatis; lobis ſeptenis lanceolatis acuminatis integerrimis, pedunculis trifloris.* Sloane calls it, *Convolvulus major heptaphyllus, flore ſulphureo odorato.* It grows naturally in Jamaica. Tuberosa.

2. Indian Climber is titled, *Ipomoea foliis cordatis acutis integerrimis, caule aculeato, floribus ternis, corollis indiviſis.* Plukenet calls it, *Convolvulus Americanus, ſubrotundis foliis, viticulis ſpinoſis.* It grows in ſandy places among trees in India. Bona nox.

3. American Jeſſamine is titled, *Ipomoea foliis pinnatifidis linearibus, floribus ſubſolitariis.* Cluſius calls it, *Quamoclit, ſive Jaſminum Americanum*; and John Bauhine, and ſeveral others, ſimply, *Quamoclit.* It is a native of India. Quamoclit.

4. Violet *Quamoclit* is titled, *Ipomoea foliis cordatis integerrimis, floribus confertis, corollis indiviſis.* Plukenet calls it, *Quamoclit foliis ampliſſimis cordiformibus.* It grows in America. Violacea.

5. Trilobate *Ipomoea* is titled, *Ipomoea foliis trilobis cordatis, pedunculis trifloris.* Sloane and Ray call it, *Convolvulus pentaphyllos minor, flore purpureo.* It grows naturally in America. Triloba.

6. *Hepatica*-leaved *Ipomoea* is titled, *Ipomoea foliis trilobis, floribus aggregatis.* Herman calls it, *Convolvulus Zeylanicus hirſutus, foliis hepaticæ.* It grows naturally in Ceylon. Hepaticafolia.

7. Campanulated *Quamoclit* is titled, *Ipomoea foliis cordatis, pedunculis multifloris, perianthio exteriore orbiculari, corollis campanulatis lobatis.* Rheede calls it, *Adamboe.* It grows naturally in India. Campanulata.

CHAP. CXXXIX.

JUSTICIA.

Species.

IN this place muſt come;
1. Long ſpiked *Adhatoda.*
2. Scorpion *Juſticia.*
3. Betony *Juſticia.*
4. Hyſſop-leaved *Juſticia*, or Snap Tree.
5. Prickly *Juſticia.*
6. Procumbent *Juſticia.*
7. Creeping *Juſticia.*
8. Chineſe *Juſticia.*
9. Echioide *Juſticia.*
10. Purple *Juſticia.*

Long-ſpiked Adhatoda deſcribed.

1. Long-ſpiked *Adhatoda.* The ſtem is woody, upright, robuſt, divides into many branches, and grows to be twelve or fourteen feet high. The leaves are ſpear-ſhaped, oval, of a ſhining green colour on the upper ſide, a little downy underneath, and grow oppoſite by pairs. The flowers are produced in very long ſpikes from the ends of the branches; they are of a white colour, or a whitiſh-green tinged with blue, and are ſeldom ſucceeded by ripe ſeeds in England.

Scorpion

2. Scorpion *Juſticia.* The ſtalk is ſhrubby, brittle, branching, and five or ſix feet high. The leaves are ſpear-ſhaped, oval, hairy, and grow oppoſite by pairs, ſitting cloſe to the branches. The flowers are produced in ſpikes, which are recurved in manner of a ſcorpion's tail, from the wings of the leaves; they are large, of a carmine colour, and are ſometimes ſucceeded by ripe ſeeds in England.

Betony

3. Betony *Juſticia.* The ſtalk is ſhrubby, branching, and five or ſix feet high. The leaves are ſpear-ſhaped, oval, and grow oppoſite by pairs. The flowers come out in ſmall ſpikes from the wings of the leaves; they are of a reddiſh colour, and are ſucceeded by ſhort, oblong capſules, in which the ſeeds ſometimes ripen in theſe parts.

Hyſſop-leaved Juſticia deſcribed.

4. Hyſſop-leaved *Juſticia.* The ſtalk is ligneous, branching from the very bottom, covered with a white bark, and grows to be three or four feet high. The leaves are ſpear-ſhaped, entire, ſmooth, of a deep green colour, and grow oppoſite by pairs on the branches. The flowers come out uſually three together on ſhort footſtalks from the ſides of the branches, though a footſtalk ſometimes ſupports two, and ſometimes one flower only; they are of a white colour, but not ſucceeded by ſeeds in England.

In India, the flowers are ſucceeded by oblong pods, which burſt open with an elaſtic force for the diſcharge of the ſeeds when ripe. Hence the name Snap Tree is uſed for this ſhrub among the inhabitants of thoſe parts. It is moderately hardy, and will live in a good ſtove, after the plants are two or three years old.

Prickly

5. Prickly *Juſticia.* The ſtalks are many, ſlender, ſhrubby, ſend forth many erect, whitiſh branches from the bottom, and grow to be five or ſix feet high. The leaves are ſmall, oblong, oval, grow oppoſite at the joints, and under them are ſituated two ſharp ſpines at every joint. The flowers are produced ſingly on footſtalks from the ſides of the branches; they are ſmall, of a pale red colour, and are not ſucceeded by ſeeds in England.

Procumbent

6. Procumbent *Juſticia.* The ſtalks are herbaceous, tender, weak, and trailing. The leaves are ſpear-ſhaped, and entire. The flowers come out in ſpikes from the ends and ſides of the branches; they are ſmall, and of a bluiſh colour.

Creeping

7. Creeping *Juſticia.* The ſtalks are ſlender, jointed, lie on the ground, and ſtrike root at the joints. The leaves are oval, and ſlightly crenated on their edges. The flowers are produced in ſpikes from the ends of the branches, but are not ſucceeded by ſeeds in England.

Chineſe

8. Chineſe *Juſticia.* The ſtalks are herbaceous, angular, branching near the bottom, and about a foot long. The leaves are oval, ſlightly crenated on the edges, and grow oppoſite to each other on ſhort footſtalks. The flowers come out on footſtalks from the wings of the leaves, each footſtalk uſually carrying three flowers; and they are ſucceeded by ſmall oblong capſules, containing the ſeeds, which frequently ripen in England.

Echioide

9. Echioide *Juſticia.* The ſtalks are thick, rough, branching a little, and a foot and a half high. The leaves are ſpear-ſhaped, narrow, obtuſe, and ſit cloſe to the ſtalks. The flowers are produced in looſe ſpikes from the ends of the branches, are of a blue colour, and frequently followed by ripe ſeeds in England.

and Purple Juſticia deſcribed.

10. Purple *Juſticia.* The ſtalks are herbaceous, geniculated, and branching. The leaves are oval, ſharp-pointed, ſmooth, entire, and grow on ſhort footſtalks. The flowers are produced in ſpikes from the ends and ſides of the branches, are of a purple colour, and are ſometimes ſucceeded by ripe ſeeds in England.

Culture;

The firſt, third, fourth, and fifth ſpecies are ſhrubby plants, and are eaſily propagated by cuttings; but the ſtalks of the ſecond ſpecies being brittle, do not ſo readily ſtrike root; and that ſpecies is beſt raiſed from ſeeds. The ſixth and ſeventh ſorts may be raiſed very faſt by parting of the roots; but the eighth, ninth, and tenth ſpecies are beſt raiſed by ſowing of the ſeeds. The cuttings may be planted, in any of the ſummer months, in pots filled with light, rich earth, and ſhaded and watered until they have taken root, when more air muſt be allowed them, eſpecially if the weather is hot: When advanced to a good growth, they muſt be ſet ſeparately in ſmall pots, and be again plunged into the hotbed, and kept ſhaded as at firſt. In autumn, the firſt and third ſorts ſhould be taken into the moſt temperate ſtove, as a very ſmall degree of artificial heat will be ſufficient; but the others muſt be taken into a good ſtove, plunging them up to the rims in the bark bed, and affording them all proper management due to tender plants. The firſt ſort, as well as the third, may be preſerved in a good green-houſe, when the plants become woody and ſtrong; ſo that if there be a ſcarcity of room in the ſtove, they may be ſtationed in the green-houſe with their relation the Malabar Nut, and be allowed ſimilar treatment.

All the ſorts, whether ſhrubby or herbaceous, may be raiſed by ſeeds. Theſe ſhould be ſown in the ſpring on a good hotbed; and, when the plants are fit to be removed, they may be ſet ſeparately in ſmall pots; they muſt be then plunged into a hotbed of tanner's bark, and watered and ſhaded until they have taken root. After that they muſt have more air, and in the autumn be taken into the ſtove.

Titles. Ecbolium. 1. The firſt ſpecies is titled, *Juſticia arborea, foliis lanceolato-ovatis, bracteis ovatis deciduis mucronatis, corollarum galeâ reflexâ.* Burman calls it, *Adhatoda ſpicâ longiſſimâ, flore reflexo*; and Van Rheede, *Carim-curini.* It grows naturally in Malabar and Ceylon.

Scorpioides. 2. The ſecond ſpecies is titled, *Juſticia fruticoſa, foliis lanceolato-ovatis hirſutis ſeſſilibus, ſpicis recurvatis.* In Miller's Dictionary it is termed, *Juſticia foliis oblongo ovatis hirſutis ſeſſilibus, floribus ſpicatis alaribus, caule fruticoſo.* It grows naturally at Vera Cruz.

Betonica. 3. The third ſpecies is titled, *Juſticia fruticoſa, foliis lanceolato-ovatis, bracteis ovatis acuminatis venoſo reticulatis coloratis.* Rheede calls it, *Bem-curini.* It is a native of India.

Hyſſopifolia. 4. The fourth ſpecies is titled, *Juſticia fruticoſa, foliis lanceolatis integerrimis, pedunculis trifloris ancipitibus, bracteis calyce brevioribus.* In the *Hort. Cliff.* it is termed, *Juſticia foliis lineari-lanceolatis, floribus ſæpius ſolitariis.* Plukenet calls it, *Ecbolii Indici, ſive Adhatodæ cucullatis floribus æmula, hyſſopifolia planta ex Inſulis Fortunatis.* It grows only in India.

Spinosa 5. The fifth ſpecies is titled, *Juſticia fruticoſa, ſpinis axillaribus, pedunculis lateralibus ſimplicibus.* In Miller's Dictionary it is termed, *Juſticia ſpinoſa, foliis oblongo-ovatis emarginatis, caule fruticoſo ramoſo.* Jaquin calls it, *Juſticia monanthera ſpinoſa.* It grows naturally in America.

6. The ſixth ſpecies is titled, *Juſticia procumbens, foliis lanceolatis integerrimis, ſpicis terminalibus lateralibuſque alternis, bracteis ſetaceis.* Plukenet calls it, *Euphraſia, alſines anguſtiore folio, rubiæ modo ſpicata, Golcondea.* It grows naturally in Ceylon. Procumbens

7. The ſeventh ſpecies is titled, *Juſticia repens, foliis ovatis ſubcrenatis, ſpicis terminalibus, bracteis lanceolatis.* Burman calls it, *Adhatoda ſpicata, floſculos ex foliolis membranaceis.* It grows naturally in Ceylon. Repens.

8. The eighth ſpecies is titled, *Juſticia herbacea, foliis ovatis, floribus lateralibus, pedunculis trifloris, bracteis ovalibus.* It grows naturally in China. Chinensis.

9. The ninth ſpecies is titled, *Juſticia foliis lanceolato-linearibus obtuſis ſeſſilibus, racemis adſcendenti-ſecundis, bracteis ſetaceis.* Herman calls it, *Euphraſiæ affinis Indica echioides*; and Van Rheede, *Peetumba.* It grows naturally in India. Echioides.

10. The tenth ſpecies is titled, *Juſticia foliis ovatis utrinque mucronatis integerrimis glabris, caule geniculato, ſpicis ſecundis.* Rumphius calls it, *Folium tinctorum.* It grows naturally in China. Purpurea.

C H A P. CXL.

IXORA.

THERE are three diſtinct ſpecies of this genus, viz.

Species.
1. Scarlet *Ixora.*
2. White *Ixora.*
3. American *Ixora.*

Scarlet, 1. Scarlet *Ixora.* The ſtem is woody, branching, and eight or ten feet high. The leaves are large, firm, oval, ſmooth, and ſhining on the upper ſide; thoſe towards the extremity of the branches grow oppoſite, and embrace them with their baſe; but the lower ones are frequently ſingle, and have ſhort footſtalks. The flowers are produced in bunches from the ends of the branches; they are of a bright ſcarlet colour, and of exquiſite beauty, but without ſmell; and are not ſucceeded by ripe ſeeds in England.

White, 2. White *Ixora.* The ſtem is woody, branching, and grows to ten or twelve feet high. The leaves are large, oval, ſpear-ſhaped, ſmooth, bright on the upper-ſide, and of a firm ſubſtance. The flowers come out in umbels from the ends of the branches, are of a whitiſh colour, and diſpoſſeſſed of odour; they are not ſucceeded by ripe ſeeds in England.

and American Ixora deſcribed. 3. American *Ixora.* The ſtem is woody and branching. The leaves are oval, ſpear-ſhaped, oblong; ſome of them ſtand by threes, and others grow oppoſite by pairs on the branches. The flowers are produced in looſe bunches from the ends of the branches, but are not ſucceeded by ripe ſeeds in England.

Culture. Theſe plants are propagated by ſeeds, when they can be procured good from the countries where they naturally grow. They muſt be ſown in pots filled with freſh, light, rich earth, and plunged up to the rims in a good bark-bed. When the plants are fit to remove, they muſt be potted ſeparately, watered and ſhaded until they have taken root, and, in the autumn, be taken into the bark ſtove, and treated like other ſtove plants.

They are alſo increaſed by layers. This muſt be performed on the young ſhoots in the ſpring, in the uſual way; and if they be duly watered, they will have taken root before the end of ſummer, when they may be taken out, potted ſeparately, and managed like the ſeedlings.

1. The firſt ſpecies is titled, *Ixora foliis ovalibus ſemi-amplexicaulibus, floribus faſciculatis.* Burman calls it, *Jaſminum flore tetrapetalo, Ixora Linnæi, ſchetti horti Malab.*; Plukenet, *Jaſminum Indicum, lauri folio, inodorum umbellatum, floribus coccineis*; alſo, *Arbor Indica, lauri amplioribus foliis obtuſis*; Rumphius, *Elemnia ſylvarum*; and Van Rheede, *Schetti.* It grows naturally in India. Titles. Coccinea

2. The ſecond ſpecies is titled, *Ixora foliis ovato-lanceolatis, floribus faſciculatis.* Plukenet calls it, *Jaſminum Indicum, lauri folio, inodorum umbellatum, floribus albicantibus, et ſchetti album*; and Rheede, *Bemſchetti.* It grows naturally in India. Alba.

3. The third ſpecies is titled, *Ixora foliis ternis lanceolato-ovatis, floribus thyrſoideis.* Brown calls it, *Pavetta foliis oblongo-ovatis oppoſitis, ſtipulis ſetaceis.* It grows naturally in Jamaica. Americana

Ixora is of the Claſs and Order *Tetrandria Monogynia*; and the characters are, Claſs and Order in the Linnæan Syſtem. The characters.

1. Calyx is a ſmall, permanent perianthium divided into four erect parts.

2. Corolla is one funnel-ſhaped petal. The tube is cylindrical, very long and ſlender. The limb is plane, and divided into four oval ſegments.

3. Stamina are four very ſhort, incurved filaments, ſituated in the diviſion of the corolla, having oblong antheræ.

4. Pistillum conſiſts of a roundiſh germen within the baſe of the calyx, a filiforme ſtyle the length of the tube, and a bifid ſtigma.

5. Pericarpium is a roundiſh berry containing two cells.

6. Semina. The ſeeds are two, convex on one ſide, and angular on the other.

CHAP. CXLI.

KÆMPFERIA, GALANGALE.

Species.

THERE are two ſpecies of this genus, called,
1. Galangale.
2. Round Galangale.

Galangale

1. Galangale. The root is tuberous, thick, fleſhy, creeping, knotty, jointed, of an aromatic ſmell, and an acrid bitter taſte. The leaves are two at the crown of every knot of the root, large, oval, finely ſcented, grow oppoſite, and ſit cloſe, having no footſtalks. Between the leaves ſtand the flowers ſingly on the crown of the root, without footſtalks; they are of a white colour, with a deep purple in the center; they appear in ſummer, but are never ſucceeded by ſeeds in England, and very rarely in their native places of growth.

and Round Galangale deſcribed.

2. Round Galangale. The root is thick, fleſhy, ſwelling, of a pale-brown colour on the outſide, of a warm taſte, and an aromatic ſmell. The leaves are ſpear-ſhaped, of a ſtrong green colour, a thickiſh ſubſtance, and ſtand oppoſite to each other on upright, broad, flattiſh footſtalks. The flowers are produced on footſtalks between the leaves; they are of a white colour, are purple in the center, and in ſome parts greeniſh, or inclined to yellow; they appear in the ſummer, but are not ſucceeded by ſeeds in England.

Culture.

Theſe plants are propagated by parting of the roots, the beſt time for which is the early part of the ſpring, juſt before the leaves ariſe. They ſhould be planted in pots filled with light, rich garden mould, and be placed in the bark-bed, where they ſhould conſtantly remain. The leaves decay every autumn, and freſh ones ariſe in the ſpring; which directs us to give them very little water while their roots remain dormant. But in the ſpring, when their leaves ariſe, and in ſummer, when the flowers continue growing, the waterings muſt be frequent, but not in too large quantities at a time; they ſhould alſo have freſh air allowed them at that ſeaſon, eſpecially if the weather is hot.

Medicinal properties.

Galangale is carminative, ſudorific, and has been preſcribed in bitter infuſions; but it is now rejected by the London College, and is very ſeldom uſed.

Titles.

Galanga.

1. The firſt ſpecies is titled, *Kæmpferia foliis ovatis ſeſſilibus*. In the *Hort. Cliff.* it is termed, *Kæmpferia*; and in the *Hort. Malab. Katsjula-kelengu*. Kæmpfer calls it, *Wanbom*; and Rumphius, *Sonchorus*. It grows naturally in India.

Rotunda.

2. The ſecond ſpecies is titled, *Kæmpferia foliis lanceolatis petiolatis*. In the *Hort. Malab.* it is named, *Malankua*. Caſpar Bauhine calls it, *Zedoaria rotunda*. It grows naturally in India.

Claſs and Order in the Linnæan Syſtem. The characters.

Kæmpferia is of the Claſs and Order *Monandria Monogynia*; and the characters are,

1. Calyx is an obſolete perianthium, placed above the germen.

2. Corolla is one petal. The tube is long, and ſlender. The limb is plane, and divided into ſix parts, which are all of equal length: Three of theſe parts are ſpear-ſhaped, and equal every way; two are oval; and the loweſt is divided into two obcordated ſegments.

3. Stamina conſiſt of one ſuboval, membranaceous filament, having a linear anthera growing to it the whole length, and ſcarcely emerging out of the tube of the corolla.

4. Pistillum conſiſts of a roundiſh germen, a ſtyle the length of the tube, and an obtuſe ſtigma.

5. Pericarpium is a roundiſh, three-cornered capſule, formed of three valves, and containing three cells.

6. Semina. The ſeeds are many.

CHAP. CXLII.

LAETIA.

Species.

THIS genus at preſent conſiſts only of two ſpecies, called,
1. Petalleſs *Laetia*.
2. Complete *Laetia*.

Petalleſs

1. Petalleſs *Laetia*. The ſtalk is woody, branching, and grows to ſix or eight feet high. The leaves are oval, pointed, crenated, and grow alternately. The flowers are produced in looſe bunches from the wings of the leaves; they have a coloured calyx, but no petals, and are followed by globular, obtuſely three-cornered, fleſhy berries, containing the ſeeds.

and Complete Laetia deſcribed.

2. Complete *Laetia* is a branching ſhrub, of about the ſame height with the former. The leaves are oval, ſlightly crenated, of a moſt elegant ſhining green colour, and grow alternately

on ſhort footſtalks. The flowers are produced on geniculated footſtalks from the wings of the leaves; theſe are ornamented with five petals within the coloured calyx, and are ſucceeded by trivalved capſules, contaiinng the ſeeds.

Culture. Theſe plants are propagated by ſeeds, which muſt be ſown in the ſpring in pots filled with good, light mould, and plunged into a hotbed of tanner's bark. When the plants are fit to remove, they muſt be potted ſeparately, be again plunged into the hotbed, and watered and kept ſhaded at firſt; afterwards they muſt have a large ſhare of air, eſpecially when the weather is hot; and in the autumn they muſt be taken into a pretty good bark ſtove, where they muſt conſtantly remain, and be treated with the ſame care as other tender plants.

Titles. 1. The firſt ſpecies is titled, *Laetia floribus apetalis.* Lœfling calls it, *Guidonia Laetia*; and Brown, *Guidonia foliis ovatis utrinque porrectis alternis quandoque crenatis, racemis laxis alaribus.* It grows naturally in America.

Apetala

Completa.

2. The ſecond ſpecies is titled, *Laetia floribus petaloideis completis.* Brown calls it, *Themnia foliis ovatis læviſſime crenatis læte virentibus nitidis alternis, petiolis brevibus, pedunculis geniculatis.* It grows naturally in America.

Claſs and Order in the Linnæan Syſtem. The characters. *Laetia* is of the Claſs and Order *Polyandria Monogynia*; and the characters are,

1. Calyx is a perianthium compoſed of five oblong, concave, reflexed, coloured, fading leaves.

2. Corolla. There is either none, or elſe five petals.

3. Stamina are numerous, capillary filaments, a little ſhorter than the calyx, having roundiſh antheræ.

4. Pistillum conſiſts of an oblong germen, a filiforme ſtyle longer than the ſtamina, and a capitated, depreſſed ſtigma.

5. Pericarpium is a globular, ſubtrigonal, fleſhy berry, marked with three lines, and containing one cell.

5. Semina. The ſeeds are many, nidulant, angular, and ſurrounded with pulp.

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CHAP. CXLIII.

LANTANA, AMERICAN *VIBURNUM.*

THE more tender ſpecies of this genus are,

Species.
1. Trifoliate *Lantana.*
2. Leafy-headed *Lantana.*
3. Leafleſs-headed *Lantana.*
4. Prickly *Lantana.*

Trifoliate 1. Trifoliate *Lantana.* The ſtalk is woody, covered with a woolly bark, ſends out branches from the ſides, and grows to about a yard high. The leaves are oblong, pointed, rough, indented, and ſome of them grow oppoſite, others by threes, at the joints. The flowers come out from the ends of the branches in oblong, roundiſh ſpikes; they are of a purple colour, appear in the autumn, frequently continue in ſucceſſion part of the winter, and are ſucceeded by large purple berries, which ſometimes ripen in England.

Leafy-headed, 2. Leafy-headed *Lantana.* The ſtalk is woody, ſmooth, divides into many branches, and grows to be four or five feet high. The leaves are roundiſh, indented, rough, and grow oppoſite by pairs at the joints. The flowers come out from the ends of the branches in ſmall, roundiſh heads or bunches, attended by many little leaves ſurrounding them in the manner of an involucrum; they are of a purple colour, appear at the end of the ſummer, and are ſucceeded by ſmall berries, which ſometimes ripen in England.

Leafleſs-headed, 3. Leafleſs-headed *Lantana.* There are many varieties of this plant. The ſtalks are woody, unarmed, branching, and ſome of the ſorts grow to be three or four feet high, others ſix or eight. The leaves of ſome are like Baum, others like thoſe of the Stinging Nettle; ſome are more hairy than others; and they grow oppoſite to each other on ſhort footſtalks. The flowers come out from the ends and ſides of the branches in roundiſh heads or bunches, but they have no leaves attending them in the manner of the former ſpecies; their colour is red, yellow, or purple; moſt of them flower in the autumn, continue in ſucceſſion until Chriſtmas, and frequently exhibit ripe berries among the bloom.

and Prickly Lantana deſcribed. 4. Prickly *Lantana.* The ſtalk is woody, grows to three or four feet high, and ſends forth ſeveral angular branches, which are armed with crooked ſpines. The leaves are oval, ſpear-ſhaped, hairy, and grow oppoſite to each other on ſhort footſtalks. The flowers come out from the wings of the leaves, near the ends of the branches, in roundiſh heads or umbels; thoſe on the outſide of the umbels are of a fine ſcarlet colour, but thoſe at the center are of a bright-yellow colour; they appear in September, and continue in ſucceſſion for more than three months, frequently exhibiting roundiſh, black, ripe, pulpy berries among the bloom.

Culture. Theſe plants are eaſily propagated by ſeeds, which ſhould be ſown in pots filled with rich, loamy earth ſoon after they are ripe, otherwiſe they frequently lie a full year before they make their appearance. The pots muſt be kept from froſt all winter, and in the ſpring muſt be plunged up to the rims in a bark bed, the more effectually to bring up the ſeeds. When the plants are fit to remove, each ſhould have a ſeparate pot, be plunged into a bark bed, and be watered and ſhaded until they have taken root. After that they muſt have a larger ſhare of air, eſpecially in hot weather, and be frequently watered. In the autumn they muſt be removed into a temperate ſtove, which will be more ſuitable to them than a greater degree of heat.

They are alſo eaſily propagated by cuttings; theſe ſhould be taken off about midſummer, and be planted in pots, which ſhould immediately be plunged up to the rims in the bark bed. Here the plants muſt be ſhaded and watered until they are in a good growing ſtate; when they muſt be taken into the ſtove, where they ſhould have but little water during the winter ſeaſon.

Theſe plants may be ſet abroad in the hotteſt ſummer months; and they ſucceed very well, if ſet on ſtands in the dry ſtove in winter, where they will look beautiful, and frequently exhibit their bloom and ripe berries the greateſt part of that ſeaſon.

Their propagation by cuttings is very eaſy, and what is generally practiſed for their encreaſe; but the raiſing them from ſeeds ought always to be preferred when good ſeeds may be had, not only becauſe ſeedlings for the moſt part commence the beſt plants, but that by ſuch method of raiſing them freſh varieties are frequently obtained.

Titles. Trifolia. 1. The firſt ſpecies is titled, *Lantana foliis ternis, caule inermi, ſpicis oblongis imbricatis.* Plumier calls it, *Camara trifolia, purpuraſcente flore*; and Vaillant, *Myrobatindum ſpicatum, viburni foliis ex adverſo ternis.* It grows naturally in the warmeſt parts of America.

Involucrata. 2. The ſecond ſpecies is titled, *Lantana foliis oppoſitis, caule inermi, floribus capitato-umbellatis involucrato folioſis.* Plumier calls it, *Camara arboreſcens, ſalviæ folio*; and Plukenet, *Viburnum Americanum odoratum, folio parvo orbiculato, floribus & baccis folio interceptis.* It grows naturally in America.

Camara. 3. The third ſpecies is titled, *Lantana foliis oppoſitis, caule inermi ramoſo, floribus capitato-umbellatis aphyllis.* In the *Hort. Cliff.* it is termed, *Lantana foliis oppoſitis petiolatis, floribus capitatis.* Plumier calls it, *Camara alia, flore variegato, non ſpinoſa*; Plukenet, *Viburnum Americanum non ſpinoſum, meliſſæ foliis, floribus coccineis*; Commeline, *Viburnum Americanum, urticæ foliis, lamii odore, floribus miniatis*; and Sloane, *Periclymenum rectum, urticæ folio hirſuto majore, flore flavo.* It grows naturally in America.

Aculeata. 4. The fourth ſpecies is titled, *Lantana foliis oppoſitis, caule aculeato ramoſo, floribus capitato-umbellatis.* In the *Hort. Cliff.* it is termed, *Lantana foliis oppoſitis petiolatis, caule aculeato.* Vaillant calls it, *Myrobatindum viburni folium ſpinoſum, floribus coccineis*; and Plukenet, *Viburnum Americanum odoratum, urticæ foliis latioribus ſpinoſum, floribus miniatis.* It grows naturally in America.

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CHAP. CXLIV.

LAURUS, The BAY TREE.

Species. OF this genus are the following ſpecies, viz.

1. Common Cinnamon Tree.
2. *Caſſia*, or Ever-flowering Cinnamon.
3. *Perſea*, Avocado, or Avagato Pear.
4. *Chloroxylon*, or Jamaica Bay.

Common, 1. Common Cinnamon Tree. This is a large tree, ſending out ſeveral ſtrong branches irregularly from the trunk, which divide into others ſmaller. The bark is grey without, reddiſh within, and ſmells ſtrongly of Camphire. The leaves are oval, oblong, thick, trinervous, of a bright-green colour, and are placed without order on long, furrowed footſtalks. The flowers come out in cluſters from the ends and ſides of the branches; they are ſmall, of a white colour, but exceeding fragrant, and are ſucceeded by large, oval fruit.

It is the inner bark of this tree which is the Cinnamon of the ſhops.

and Caſſia, or Ever-flowering Cinnamon deſcribed. 2. *Caſſia*, or Ever-flowering Cinnamon. This tree grows to be large, and ſends forth numerous branches, which again divide into ſmaller. The leaves are ſpear-ſhaped, of a thinner ſubſtance than the former, acute, trinervous, and are placed without order on the branches. The flowers come out from the ends and ſides of the branches; they are ſmall, of a whitiſh colour, and appear the greateſt part of the year.

Perſea, Avocado, or Avogato Pear deſcribed. 3. *Perſea*, Avocado, or Avogato Pear. This plant grows to be thirty feet high, the trunk being proportionally thick, robuſt, branching, and covered with a ſmooth, aſh-coloured bark. The leaves are oval, coriaceous, tranſverſly veined, and continue green all the year. The flowers come out in corymboſe bunches from the ends of the branches, and are ſucceeded by very large, pear-ſhaped, eſculent fruit, equal in ſize to our larger Pear, very nouriſhing, and in high eſteem with the Indians, who uſe it in their deſerts.

Chloroxylon, or Jamaica Bay deſcribed. 4. *Chloroxylon*, or Jamaica Bay. This plant riſes with an upright, robuſt ſtem to a conſiderable height, ſending forth many branches, which are covered with a browniſh bark. The leaves are oval, ſmooth, trinervous, rigid, and are placed on ſhort, firm, footſtalks on the branches. The flowers come out ſingly from the wings of the leaves; they are ſmall, of a whitiſh colour, have footſtalks, and are ſucceeded by a roundiſh, oval fruit, which is at firſt green, and afterwards of a black colour when ripe.

Culture. All theſe ſorts are raiſed like the Camphire tree, and the other Green-houſe ſpecies of this genus, to which the reader, to avoid repetition, is referred; nevertheleſs, obſerving to him, that inſtead of two hotbeds, unleſs he makes uſe of bark, it would be proper to give theſe ſpecies three hotbeds ſucceſſively; to keep them always covered in nights, in that tender ſtate; and early in the autumn to remove them into the temperate ſtove, where they will do better than in a greater degree of heat.

Titles. Cinnamomum. 1. Common Cinnamon Tree is titled, *Laurus foliis trinerviis ovato-oblongis nervis verſus apicem evaneſcentibus.* In the *Hort. Cliff.* it is termed, *Laurus foliis oblongo-ovatis planis.* Burman calls it, *Cinnamomum, foliis laxis ovatis, frugiferum*; Caſpar Bauhine, *Cinnamomum ſ. canella Zeylanica*; and Herman, *Caſſia Cinnamonea.* It grows plentifully in Ceylon.

Cassia. 2. *Caſſia*, or Ever-flowering Cinnamon Tree, is titled, *Laurus foliis triplinerviis lanceolatis.* Burman calls it, *Cinnamonum perpetuò florens, folio tenuiore acuto*; Caſpar Bauhine, *Cinnamomum ſ. canella Malabarica ſ. Javanenſis*; and Rheede, *Carna.* It grows naturally in Malabar, Sumatra, and Java.

Persea. 3. *Perſea*, Avocado, or Avogato Pear, is titled, *Laurus foliis venoſis ovatis coriaceis perennantibus, floribus corymboſis.* Cluſius calls it, *Perſea*; Caſpar Bauhine, *Perſea Americana*; alſo, *Pyro ſimilis fructus in Novâ Hiſpaniâ, nucleo magno*; Sloane, *Prunifera arbor, fructu maximo pyriformi viridi, pericarpio eſculento butyraceo nucleum*

cleum unicum maximum nullo oſſiculo tectum cingente; and Plukenet, *Arbor Americana, ampliſſimis pergamenis foliis, ſuperficie nitidiſſimâ, fructu pyriformi cruſtaceo, cortice cupriato.* It grows naturally in the hotteſt parts of America.

Chloroxylon. 4. *Chloroxylon*, or Jamaica Bay, is titled, *Laurus foliis trinerviis ovatis coriaceis: nervis apicem attingentibus.* Brown calls it, *Chloroxylon foliis ovatis glabris rigidis trinerviis, floribus ſingularibus.* It grows naturally in Jamaica.

CHAP. CXLV.

LAWSONIA.

THIS genus conſiſts of two ſpecies, which are known among Gardeners by the names of,

Species.
1. Egyptian Privet.
2. Malabar Buckthorn.

Egyptian Privet deſcribed. 1. Egyptian Privet. The ſtem is woody, grows to eight or ten feet high, and ſends forth ſeveral ſlender, ligneous branches by pairs oppoſite, which are covered with a yellowiſh bark. The leaves are oblong, acute-pointed, of a pale-green colour, and grow oppoſite by pairs. The flowers are produced in bunches from the ends of the branches; they are of a dull-white colour, and are ſucceeded by globular-pointed capſules, containing the ſeeds.

Malabar Buckthorn deſcribed. 2. Malabar Buckthorn. The ſtem is woody, robuſt, of a whitiſh colour, ſends out many prickly branches alternately from the ſides, and grows to be ſixteen or eighteen feet high. The leaves are oblong, oval, and ſtand without order at the joints, attended by ſingle, ſharp, ſtrong thorns. The flowers are produced in bunches from the ends and ſides of the branches; they are of a pale-yellow colour, and diſagreeable odour.

Culture. Theſe plants are propagated by ſowing the ſeeds in the ſpring, in pots filled with light, ſandy earth, and plunging them into a hotbed of tanner's bark. The uſual care afforded tender ſeedlings muſt attend theſe plants after they come up until they are three or four inches high, when they ſhould be carefully ſhook out of the pots, and planted ſeparately in pots filled with the like kind of ſandy earth. Watering and ſhade muſt be allowed them until they have commenced a growing ſtate, when they ſhould be allowed more air; and in hot weather the air ſhould be admitted to them freely, and they ſhould be frequently watered. In the autumn they ſhould be taken into a bark ſtove, where they ſhould conſtantly remain, ſhifting them from time to time into larger pots, as often as they ſhall require, keeping them warm in winter, and giving them little water at that ſeaſon; but allowing them conſtant ſupplies of water, and much free air, eſpecially in hot weather in ſummer.

Titles. Inermis 1. The firſt ſpecies is titled, *Lawſonia ramis inermibus.* Caſpar Bauhine calls it, *Liguſtrum Egyptiacum latifolium*; Walther, *Alhenna ſ. Henna Arabum*; Rheede, *Pontaletſce*; and Rauwolf, *Cyprus, henna, alcanna.* It grows naturally in India and Egypt.

Spinosa. 2. The ſecond ſpecies is titled, *Lawſonia ramis ſpinoſis.* Plukenet calls it, *Rhamnus Malabricus, MAIL-ANSKI*; Rumphius, *Cyrus*; and Rheede, *Mail-anſchi.* It grows naturally in India.

Claſs and Order in the Linnæan Syſtem. *Lawſonia* is of the Claſs and Order *Octandria Monogynia*; and the characters are,

The characters.
1. CALYX is a ſmall, quadrifid, permanent perianthium.
2. COROLLA conſiſts of four, oval, ſpear-ſhaped, plane, patent petals.
3. STAMINA are eight filiforme filaments the length of the corolla, placed in pairs within the petals, having roundiſh antheræ.
4. PISTILLUM conſiſts of a roundiſh germen, a ſimple, permanent ſtyle the length of the ſtamina, and a capitated ſtigma.
5. PERICARPIUM is a globular, but ſharp-pointed capſule, containing four cells.
6. SEMINA. The ſeeds are angular, and acuminated.

CHAP. CXLVI.

LIPPIA.

THERE are two ſpecies of this genus, viz.

Species.
1. Pyramidal *Lippia.*
2. Hemiſpherical *Lippia.*

Pyramidal and Hemiſpherical Lippia deſcribed. 1. Pyramidal *Lippia.* The ſtalk is woody, rough, jointed, ſends forth branches by pairs, and grows to be ſix or eight feet high. The leaves are ſpear-ſhaped, oval, oblong, pointed, rough, a little ſerrated, and grow oppoſite by pairs on the branches. The flowers come out from the wings of the leaves, in ſmall pyramidal, ſcaly heads; they are of a yellow colour, and are ſucceeded by ſmall, compreſſed capſules, each containing one ſeed.

2. Hemiſpherical *Lippia.* This grows to be ſixteen or eighteen feet high. The leaves are oblong, pointed, and grow oppoſite by pairs. The flowers are produced from the wings of the leaves in hemiſpherical, ſcaly heads, and are ſucceeded by the like kind of capſules as the former.

Culture. Theſe plants are propagated by ſowing the ſeeds in the ſpring, in pots filled with light, rich earth, and plunging them into a hotbed of tanner's bark. When the plants are fit to remove, they muſt be potted ſeparately, be again plunged into the bark bed, and watered and kept ſhaded until they have taken root. In the autumn they muſt be taken into the bark ſtove, where they ſhould conſtantly remain, and be treated like other tender plants.

Titles.

Americana

1. The firſt ſpecies is titled, *Lippia capitulis pyramidatis.* It grows naturally at Vera Cruz.

emisphærica.

2. The ſecond ſpecies is, *Lippia capitulis hemiſphæricis.* It grows naturally in the warm parts of America.

Claſs and Order in the Linnæan Syſtem.

Lippia is of the Claſs and Order *Didynamia Angioſpermia*; and the characters are,

The characters.

1. Calyx is a perianthium ſituated above the germen, and compoſed of two diſtant, acuminated, carinated, erect, permanent leaves.

2. Corolla is one unequal petal. The limb is cut into four rounded ſegments, the upper ſegment being erect, and both the upper and lower ſegments larger than the other two.

3. Stamina are four filaments ſhorter than the corolla, of which two are larger than the others, having ſimple antheræ.

4. Pistillum conſiſts of an oval, compreſſed, plane germen, a filiforme ſtyle the ſituation and length of the ſtamina, and an oblique ſtigma.

5. Pericarpium is a bivalved, compreſſed, capſule, crowned with the calyx, containing one cell.

6. Semina. The ſeeds are ſingle, and oblong.

CHAP. CXLVII.

LOBELIA, CARDINAL FLOWER.

Species.

IN the ſtove ſhould be ſtationed,

1. Purſlain-leaved *Lobelia.*
2. Surinam *Lobelia.*
3. Pine-leaved *Lobelia.*

Purſlain-leaved,

1. Purſlain-leaved *Lobelia.* The ſtalk is thick, woody, ſucculent, and five or ſix feet high. The leaves are oval, oblong, entire, ſucculent, ſeſſile, and grow alternately. The flowers come out, two or three together, from the ſides of the ſtalks, on long footſtalks; they are of a white colour, and the general characters indicate their ſtructure. They appear ſooner or later, according as the plants have been managed while young; and they are ſucceeded by large, oval drupes, having bilocular nuts containing the ſeeds, which never ripen in England.

Surinam,

2. Surinam *Lobelia.* The ſtalk of this plant is ſhrubby, and about a foot and a half high. The leaves are oblong, ſmooth, acute, and lightly ſerrated on their edges. The flowers come out from the wings of the leaves ſingly on footſtalks almoſt as long as the leaves; they are five-cornered, and have gibbous, wreathed cups, divided at the top into five narrow, ſpear-ſhaped ſegments; and they are ſucceeded by ſwelling capſules, containing the ſeeds.

and Pine-leaved Lobelia deſcribed.

3. Pine-leaved *Lobelia.* The ſtalk of this plant is ſhrubby, and about a yard high. The leaves are narrow, entire, and come out together in cluſters. The flowers come out from the ſides of the ſtalks, near the upper parts; they are of a fine blue colour, appear in July, and are ſucceeded by roundiſh capſules, containing ripe ſeeds in the autumn.

Culture.

Theſe ſorts are beſt raiſed from ſeeds, which ſhould be ſown in pots filled with light earth: They ſhould be then plunged into a hotbed of tanner's bark; and, when the plants are about three inches high, each ſhould be ſet in a ſeparate pot, and plunged again into the bark-bed, and watered and ſhaded until they have taken root.

The firſt ſpecies is the moſt difficult to manage; for being very tender and ſucculent, it will rot if it has too much air and moiſture, and will never ſucceed well without a good deal of water and air: Water therefore muſt be frequently given them, but with ſprinkling only; and the glaſſes muſt be raiſed in warm weather, and at all favourable opportunities. About the end of September, theſe plants ſhould be conveyed into the warmeſt ſtove, plunging them into the bark-bed; and in the ſpring ſhould be ſhifted into larger pots filled with light, freſh, ſandy earth. Theſe muſt be next plunged into a freſh hot-bed, and the plants ſhould be forced on with the niceſt management of tender plants: In September, they muſt be removed into the ſtove as before, where they will flower; but are ſeldom ſucceeded by berries in England; and when they are, the ſeeds never ripen.

The ſecond and third ſorts may be raiſed the ſame way, but are not ſo liable to rot by over-watering. The ſecond ſort muſt have a warm ſtove; but the third ſpecies is moderately hardy, ſhould always be ſet abroad in ſummer, and will do very well in a good green-houſe, if there is not the conveniency of a ſtove.

Titles.

Plumierii

1. The firſt ſpecies is titled, *Lobelia fruteſcens, foliis ovali-oblongis integerrimis.* Plumier calls it, *Lobelia fruteſcens, portulacæ folio.* It grows naturally in both the Indies.

Surinamensis.

2. The ſecond ſpecies is titled, *Lobelia caule fruticoſo, foliis oblongis glabris ſerratis, floribus axillaribus pedunculatis.* It is a native of Surinam.

Pinifolia.

3. The third ſpecies is titled, *Lobelia fruticoſa, foliis linearibus confertis integerrimis.* Breynius calls it, *Rapunculus Æthiopicus, violaceo galeato flore, foliis pinaſtri*; Burman, *Rapunculus fruticoſus, foliis nervoſis acutis, floribus in ramulorum ſummo*; Ray, *Rapunculus flore cæruleo galericulato, roſmarini folio anguſtiore*; alſo, *Rapuntium Æthiopicum, violaceo galeato flore, foliis pinaſtri.* It grows naturally in Æthiopia.

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CHAP. CXLVIII.

LORANTHUS.

THERE are five ſpecies of this genus which grow upon trees in the different parts of the world, and which I thought proper not wholly to paſs by, though their culture is rarely attempted in England. They are,

Species.

1. *Scurrula.*
2. American *Loranthus.*
3. Occidental *Loranthus.*
4. Lonicerioide *Loranthus.*
5. *Stelis.*

Scurrula deſcribed. 1. *Scurrula* is a ſmall, paraſitical ſhrub. The leaves are oval, entire, ſmooth, and grow oppoſite to each other on footſtalks. The flowers come out, five or ſix together, from the ſides of the branches, each having its own proper footſtalk; and are followed by oblong berries, each containing one ſeed.

American, 2. American *Loranthus* grows upon trees in moſt of the warm parts of America. The ſtalk is woody, and branching. The leaves are oval, and grow oppoſite to each other. The flowers are produced in cluſters from the wings of the leaves, are of a beautiful ſcarlet colour, and are ſucceeded by berries, which are jet black when ripe.

Occidental, 3. Occidental *Loranthus* is another paraſitical ſhrub. The leaves are large, and of a roundiſh figure. The flowers come out in ſpikes from the wings of the leaves, and are of a purple colour.

Lonicerioide Loranthus deſcribed. 4. Lonicerioide *Loranthus.* The ſtalk is woody, and divides into a few branches, which grow erect. The leaves are oval, ſpear-ſhaped, and grow on footſtalks. The flowers come out in bunches from the ſides of the branches, and are followed by oblong berries, containing the ſeeds.

Stelis deſcribed. 5. *Stelis* is another ſhrub growing upon trees like the others, and the flowers are diſtinguiſhed by being produced in trichotomous bunches, have three-cornered footſtalks, and are all equal in ſhape. The fruit is an oblong berry, like the others.

Titles. Scurrula. 1. The firſt ſpecies is titled, *Loranthus pedunculis unifloris congeſtis, foliis obovatis.* In the former edition of the *Species Plantarum* it is termed, *Scurrula.* Petiver calls it, *Viſcum vitice innaſcens.* It grows naturally in China.

Americanus. 2. The ſecond ſpecies is titled, *Loranthus racemis ſubramoſis æqualibus, foliis ovatis.* In the former edition of the *Species Plantarum* it is termed ſimply, *Loranthus.* Vaillant calls it, *Loranthus racemoſus, flore coccineo, baccis nigris*; Plumier, *Lonicera flore coccineo, baccis nigris*; and Brown, *Scurrula paraſitica, foliis ovatis oppoſitis, racemis rarioribus alaribus.* It grows on trees in America.

Occidentalis. 3. The third ſpecies is titled, *Loranthus racemis ſimplicibus, floribus irregularibus.* Brown calls it, *Scurrula paraſitica, foliis majoribus ſubrotundis, ſpicis florum ſimplicibus alaribus*; and Sloane, *Viſcum latioribus et ſubrotundis foliis, flore purpureo.* It grows on trees in moſt iſlands of the Weſt Indies.

Lonicerioides. 4. The fourth ſpecies is titled, *Loranthus floribus aggregato-capitulis.* In the former edition of the *Species Plantarum* it is termed, *Lonicera pedunculis multifloris, involucris pentaphyllis, foliis ovato-lanceolatis petiolatis.* Plukenet calls it, *Periclymenum ſurrectum, perſicæ foliis, Maderaſpatanum*; and Rheede, *Itti Canni.* It grows naturally on the trees of Aſia.

Stelis. 5. The fifth ſpecies is titled, *Loranthus racemis trichotomis, pedunculis trigonis, floribus æqualibus.* It grows on the trees of Cumana.

Claſs and Order in the Linnæan Syſtem. *Loranthus* is of the Claſs and Order *Hexandria Monogynia*, and the characters are,

The characters. 1. CALYX. The perianthium of the fruit is an undivided, concave margin, and is ſituated below the flower.

The perianthium of the flower is ſituated above the other.

2. COROLLA conſiſts of ſix oblong, revoluted, equal petals.

3. STAMINA are ſix awl-ſhaped filaments growing to the baſes of the petals, and the length of the corolla, having oblong antheræ.

4. PISTILLUM conſiſts of an oblong germen ſituated between the two cups, a ſimple ſtyle the length of the ſtamina, and an obtuſe ſtigma.

5. PERICARPIUM is an oblong berry, containing one cell.

6. SEMEN. The ſeed is oblong.

* * *

CHAP. CXLIX.

MACROCNEMUM.

THERE is only one ſpecies of this genus, called, *Macrocnemum.*

Plant deſcribed. The ſtalk is ſtrong, upright, branching, and grows to eight or ten feet high. The leaves are oval, and grow oppoſite to each other. The flowers come out in looſe ſpikes or bunches from the ends and ſides of the branches, and are ſucceeded by oblong capſules, containing the ſeeds.

Culture. This plant is raiſed from ſeeds, which may be eaſily procured from Jamaica, where they naturally grow. They muſt be ſown in a hotbed in the ſpring; and when the plants are three or four inches high, they muſt be planted ſeparately in pots filled with light, rich earth; they muſt be then plunged into a hotbed of tanner's bark, and be watered and ſhaded until they have taken root; after that they muſt have more air and frequent waterings, eſpecially in hot weather; and in the autumn muſt be taken into a good bark ſtove, and managed like other tender plants.

Titles.

Jamai=cense.

There being no other ſpecies belonging to this genus, it is termed ſimply, *Macrocnemum.* Brown calls it, *Macrocnemum arboreſcens, foliis ovatis oppoſitis, racemis ſuſtentaculis inſidentibus.* It grows naturally in Jamaica.

Claſs and Order in the Linnæan Syſtem. The characters.

Macrocnemum is of the Claſs and Order *Pentandria Monogynia*; and the characters are,

1. Calyx is a monophyllous, turbinated, permanent perianthium, ſituated above the germen, and indented in five parts at the edges.

2. Corolla is one bell-ſhaped petal, divided into five oval, erect ſegments.

3. Stamina are five hairy, awl-ſhaped filaments ſhorter than the corolla, having oval, compreſſed antheræ within the mouth of the flower.

4. Pistillum conſiſts of a conical germen ſituated below the calyx, a ſimple ſtyle the length of the ſtamina, and a thickiſh, bilobed ſtigma.

5. Pericarpium is an oblong, turbinated capſule, containing two cells.

6. Semina. The ſeeds are many, and imbricated.

CHAP. CL.

MALPIGHIA, BARBADOES CHERRY.

Species.

Of this genus are the following ſpecies:

1. Smooth *Malpighia*, or Barbadoes Cherry.
2. Pomegranate *Malpighia.*
3. Gloſſy *Malpighia.*
4. Stinging *Malpighia.*
5. Narrow-leaved *Malpighia.*
6. Thick-leaved *Malpighia.*
7. *Verbaſcum*-leaved *Malpighia.*
8. Holly-leaved *Malpighia.*
9. Kermes oak-leaved *Malpighia.*

Smooth Malpighia, or Barbadoes Cherry, deſcribed.

1. Smooth *Malpighia*, or Barbadoes Cherry. The ſtem is eighteen or twenty feet high, divides into many ſlender branches near the top, and is covered with a light-brown bark. The leaves are oval, ſmooth, pointed, entire, evergreen, and grow oppoſite by pairs on the branches. The flowers come out from the ends and ſides of the branches in umbellated bunches, growing on longiſh footſtalks; they are of a roſe colour, ſhew themſelves about the end of autumn, continue in ſucceſſion the ſpring following, and are ſucceeded by a roundiſh red fruit, as big as a ſmall cherry, of a pleaſant acrid flavour, which frequently ripens in England.

Pomegranate,

2. Pomegranate *Malpighia.* The ſtem is woody, grows ten or twelve feet high, divides into ſeveral ſlender, ſpreading branches, and is covered with a light-brown bark. The leaves are oval, ſpear-ſhaped, pointed, ſmooth, entire, and grow by pairs on the branches. The flowers come out ſingly on footſtalks from the ends and ſides of the branches; they are of a pale red colour, appear the early part of the winter, continue in ſucceſſion ſome months, and are ſucceeded by a round fruit, which by many is reliſhed for its agreeable acidity.

Gloſſy,

3. Gloſſy *Malpighia.* The ſtem is woody, branching, and twelve or fourteen feet high. The leaves are oblong, ſpear-ſhaped, entire, ſmooth, and of a gloſſy green colour on both ſides. The flowers are produced in looſe ſpikes from the wings of the leaves; they appear at the ſame time with the former, and are ſucceeded by large globular, four-taſted berries, which ſometimes ripen in England.

tinging,

4. Stinging *Malpighia.* The ſtem is robuſt, near twenty feet high, and ſends out many ſtrong branches, which are covered with a furrowed, brown-coloured bark. The leaves are oblong, oval, entire, and cloſely covered on their underſide with very ſharp, rigid, ſtinging, briſtly hairs. The flowers are produced in umbels from the ſides of the branches; they are of a purpliſh colour, ſhew themſelves all winter, and are ſucceeded by a red furrowed fruit, which is called the Couhage or Cowitch Cherry in America.

Narrow-leaved,

5. Narrow-leaved *Malpighia.* The ſtalk is woody, ſeven or eight feet high, divides into ſeveral branches near the top, and is covered with a bright, purpliſh, ſpotted, furrowed bark. The leaves are narrow, ſpear-ſhaped, of a bright green colour on their upper ſides, but brown underneath, where they are armed with numerous, briſtly, ſtiff, ſtinging hairs, and grow oppoſite by pairs on the branches. The flowers come out in umbels from the ends and ſides of the branches; they are of a pale purple colour, appear the greateſt part of the winter, and are ſucceeded by ſmall, oval, furrowed fruit, which is at firſt green, then red, and afterwards of a dark purple colour when ripe.

Thick-leaved,

6. Thick-leaved *Malpighia.* The ſtem is robuſt, near twenty feet high, and ſends forth ſeveral branches, which are covered with a red bark. The leaves are oval, entire, of a thick conſiſtence, downy underneath, and for the moſt part grow alternately on very ſhort footſtalks. The flowers are produced in long, cloſe bunches from the ends of the branches; they are of a white colour, and finely ſcented; appear in December, January, and February; and are ſucceeded by a roundiſh, five-cornered fruit, which ſeldom ripens in England.

Verbaſcum-leaved,

7. *Verbaſcum*-leaved *Malpighia.* The ſtalk is very thick, woody, upright, and ſix or eight feet high. The leaves are large, ſpear-ſhaped, oval, entire, hairy, and woolly underneath. The flowers are produced from the tops of the ſtalks in long, looſe, hairy ſpikes; appear with the former; and are ſucceeded by a roundiſh, eſculent berry, of a pale yellow colour when ripe.

and Holly-leaved Malpighia deſcribed.

8. Holly-leaved *Malpighia.* The ſtalk is woody, often branching from the very bottom, and eight or ten feet high. The leaves are ſpear-ſhaped, armed with ſtinging, briſtly hairs underneath, indented, and prickly on the ſides like thoſe of the Holly. The flowers come out in ſmall cluſters from the ſides of the branches; they are of a pale red colour, appear in December, often continue in ſucceſſion until April, and are ſucceeded by a roundiſh, pointed fruit, which is of a dark purple colour when ripe.

9. Kermes

Kermes Oak-leaved Malpighia deſcribed.

9. Kermes Oak-leaved *Malpighia.* The ſtalk is thick, woody, and covered with a rough, grey bark, ſends out ſeveral thick, ſhort branches from the ſides, and grows to about three feet high. The leaves are nearly oval, indented, prickly on their ſides, and of a bright green colour. The flowers come out from the wings of the leaves on long footſtalks; they are of a pale red colour, appear about the ſame time with the former, and are ſucceeded by a ſmall, conical, furrowed fruit, of a reddiſh-purple colour when ripe.

Culture.

All theſe plants are propagated by ſowing the ſeeds in pots filled with light, rich earth, and plunging them up to the rims in a bark bed. When the plants are fit to remove, each muſt have a ſeparate pot, be again plunged into the bed, and be watered and ſhaded until they have taken root; after that they muſt have more air, and early in the autumn muſt be taken into the warmeſt ſtove, where they muſt be tenderly treated for three or four years: They may be ſet abroad in ſummers during the months of July and Auguſt; and in winters may be ſet in the dry ſtove, where they will thrive extremely well if they are duly watered.

Titles.

Glabra.

1. The firſt ſpecies is titled, *Malpighia foliis ovatis integerrimis glabris, pedunculis umbellatis.* Brown calls it, *Malpighia fruticoſa erecta, foliis nitidis ovatis acuminatis, floribus umbellatis, ramulis gracilibus*; Commeline, *Ceraſus Jamaicenſis, fructu tetrapyreno*; and Sloane, *Arbor baccifera folio ſubrotundo, fructu ceraſino ſulcato rubro polypyreno: oſſiculis canaliculatis.* It grows naturally in moſt parts of the Weſt India Iſlands.

Punici-folia.

2. The ſecond ſpecies is titled, *Malpighia foliis ovatis integerrimis glabris, pedunculis unifloris.* In the *Hortus Upſal.* it is termed, *Malpighia foliis ovatis integerrimis glabris.* Brown calls it, *Malpighia fruticoſa erecta, ramulis gracilibus patentibus, floribus ſolitariis*; and Plukenet, *Malpighia mali Punici facie.* It grows naturally in the Weſt Indies.

Nitida

3. The third ſpecies is titled, *Malpighia foliis lanceolatis integerrimis glabris, ſpicis lateralibus.* It grows naturally in America.

Urens.

4. The fourth ſpecies is, *Malpighia foliis oblongo-ovatis: ſetis decumbentibus rigidis, pedunculis unifloris aggregatis.* Plumier calls it, *Malpighia latifolia, folio ſubtus ſpinoſo*; Tournefort, *Meſpilus Americana, folio lato ſubtus ſpinoſo, fructu rubro*; and Sloane, *Arbor baccifera, folio oblongo ſubtiliſſimis ſpinis ſubtus obſito, fructu ceraſino ſulcato polypyreno: oſſiculis canaliculatis.* It is a native of the warmer parts of America.

Angusti-folia.

5. The fifth ſpecies is titled, *Malpighia foliis lineari-lanceolatis: ſetis utrinque decumbentibus rigidis, pedunculis umbellatis.* Plumier calls it, *Malpighia anguſtifolia, folio ſubtus ſpinoſo.* It grows naturally in America.

Craſsi-folia.

6. The ſixth ſpecies is titled, *Malpighia foliis ovatis integerrimis ſubtus tomentoſis, racemis terminalibus.* Brown calls it, *Malpighia arborea, foliis ſubrotundis alternis infernè ſublanuginoſis, ſpicis craſſis compoſitis terminalibus*; Barrelier, *Malpighia latifolia, cortice ſanguineo*; and Sloane, *Tiliæ affinis laurifolia, arbuti floribus albis racemoſis odoratis, fructu pentagono.* It grows naturally in moſt parts of the Weſt Indies.

Verbasci-folia.

7. The ſeventh ſpecies is titled, *Malpighia foliis lanceolato-ovatis tomentoſis integerrimis, racemis terminalibus.* Barrelier calls it, *Malpighia humilis, verbaſci folio & facie, caule craſſiſſimo*; and Sloane, *Baccifera arbor calyculata, foliis laurinis, fructu racemoſo eſculento ſubrotundo monopyreno pallidè luteo.* It grows naturally in the warmer parts of America.

Aquifo-lia.

8. The eighth ſpecies is titled, *Malpighia foliis lanceolatis dentato-ſpinoſis ſubtus hiſpidis.* Plumier calls it, *Malpighia anguſtis & acuminatis aquifolii foliis* It grows naturally in the warmer parts of America.

Coccigrya.

9. The ninth ſpecies is titled, *Malpighia foliis ſubovatis dentato-ſpinoſis.* Plumier calls it, *Malpighia humilis, ilicis cocciglandiferæ foliis.* It grows naturally in America.

Claſs and Order in the Linnæan Syſtem. The characters.

Malpighia is of the Claſs and Order *Decandria Trigynia*; and the characters are,

1. Calyx is a ſmall, erect, permanent perianthium, compoſed of five connivent leaves. To theſe leaves, both on the inſide and the outer, adhere two oval, gibbous, melliferous glands.

2. Corolla is five large, reniforme, plicated, ciliated, patent, concave petals, having long, narrow ungues.

3. Stamina are ten broadiſh, awl-ſhaped, erect, ſmall filaments, placed in form of a cylinder, having heart-ſhaped antheræ.

4. Pistillum conſiſts of a ſmall, roundiſh germen, and three filiforme ſtyles, with obtuſe ſtigmas.

5. Pericarpium is a large, globular, toruloſe berry, containing one cell.

6. Semina. The ſeeds are three, oſſeous, oblong, obtuſe, angular; and contain each an oblong, obtuſe kernel.

CHAP. CLI.

MAMMEA, The MAMMEE TREE.

THERE are two ſpecies of this genus, called,

Species.

1. American Mammee Tree.
2. Aſiatic Mammee Tree.

American

1. American Mammee Tree. The trunk is robuſt, rough, branching, and grows ſixty feet high, or upwards. The leaves are large, oval, oblong, obtuſe, firm, of a ſplendid-green colour, and continue all the year. The flowers come out from the ends and ſides of the branches; and they are ſucceeded by a large, round fruit, as big as a large peach, of a moſt exquiſite flavour, and a yellowiſh-green colour, when ripe. It is ranked among the richeſt fruit of the Weſt Indies, where it is brought to market for ſale.

and Aſiatic Mammee Tree deſcribed.

2. Aſiatic Mammee Tree. This is a large, branching tree, covered with a cinereous, ſulcated bark. The leaves are very large, oval, oblong, ſmooth, and of a firm ſubſtance. The flowers are produced ſingly on footſtalks, from the ends and ſides of the branches; and they are ſucceeded by a large, roundiſh, but ſomewhat cornered fruit, ſaid to be of a delicate flavour.

Theſe

Culture. Theſe trees are propagated in the Weſt Indies for the ſake of the fruit; with us, they are raiſed for curioſity; and that is eaſily effected by ſowing the ſeeds ſingly in ſmall pots filled with very rich, light earth, and plunging them into a hotbed of tanner's bark. If the ſeeds are freſh and good, they will ſoon come up, when frequent ſprinklings of water muſt be granted them, and as much free air as the weather will admit, be allowed them. When the roots have filled the pots, they muſt be ſhifted into larger, plunging them up to the rims as before; and watering them and keeping them ſhaded until they have recovered the check from removal. All ſummer they muſt have plenty of free air, and be frequently watered, and early in the autumn muſt be taken into a good bark ſtove, where they muſt conſtantly remain under the care and diſcipline of tender plants.

Titles. Americana. 1. The firſt ſpecies is titled, *Mammea ſtaminibus flore brevioribus*. Brown calls it, *Mammea foliis ovalibus nitidis, fructu ſubrotundo ſcabro*; Plumier, *Mammei magno fructu, perſicæ ſapore*; Caſpar Bauhine, *Arbor Indica Mamei dicta*; John Bauhine, *Mamay*; and Sloane, *Malus Perſica maxima, foliis rotundis ſplendentibus glabris, fructu maximo ſcabro rugoſo*. It grows naturally in Hiſpaniola and Jamaica.

2. The ſecond ſpecies is, *Mammea ſtaminibus flore longioribus*. Brown calls it, *Mammea maxima, foliis longioribus, cortice ſulcato cinereo*; and Sloane, *Mali Perſicæ Mameyæ folio longiore arbor maxima, cortice ſulcato cinereo amaro*. It grows naturally in Java. Asiatica.

Claſs and Order in the Linnæan Syſtem. *Mammea* is of the Claſs and Order *Polyandria Monogynia*; and the characters are,

The characters. 1. Calyx is a monophyllous perianthium, divided in two parts. The folioles are oval, concave, coriaceous, coloured, and deciduous.

2. Corolla conſiſts of four roundiſh, concave, patent petals, longer than the calyx.

3. Stamina are numerous very ſhort, capillary filaments, with oblong, erect antheræ.

4. Pistillum conſiſts of a roundiſh, depreſſed germen, a cylindrical ſtyle longer than the ſtamina, and a capitated, convex, permanent ſtigma.

5. Pericarpium is a large, fleſhy, ſpherical berry, pointed with the ſtyle, and containing one cell.

6. Semina. The ſeeds are four, ſuboval, and rough.

CHAP. CLII.

MARANTA, INDIAN ARROW-ROOT.

Species. THERE are two ſpecies of this genus: viz.

1. Arundinaceous *Maranta*.
2. *Galanga*, or Indian Arrow-root.

Arundinaceous Maranta deſcribed. 1. Arundinaceous *Maranta*. The root is thick, fleſhy, creeping, and full of knots. The radical leaves are numerous from a ſtrong root, ſmooth, broadeſt in the middle, pointed at both ends, and ſix or eight inches long. The ſtalks riſe from the root among the leaves, are branching, jointed, two feet high, and adorned with ſmaller leaves than the radical ones, growing ſingly at the joints. The flowers are produced in looſe bunches from the ends of the branches; they are of a white colour, appear in June and July, and the ſeeds ripen in the autumn.

Galanga deſcribed. 2. *Galanga*, or Indian Arrow-root. The root is thick, fleſhy, creeping, and full of juice. The leaves are numerous, ſmooth, and of a light-green colour. The ſtalks are undivided, and a foot and a half high. The flowers are produced in bunches on the tops of the ſtalks; they are ſmall, of a white colour, and appear in June and July; but are rarely ſucceeded by ſeeds in England.

Medicinal properties. It is by the root of this ſpecies that the Indians extract the poiſon of their arrows, which is effected by applying it as a cataplaſm to the wounded part: It is alſo powerful in extracting poiſon of all ſorts; and is ſaid, if applied in time, to ſtop a gangrene.

Culture. Theſe plants are propagated by parting of the roots, the beſt time for which is the ſpring, juſt before the leaves ariſe. The roots ſhould be planted in pots filled with light, rich earth, and plunged into a hotbed of tanner's bark, affording them now and then a ſlight ſprinkling of water, to prevent the mould getting too dry. The leaves will ſoon ſhew themſelves, when the watering ſhould be oftener repeated, and in a greater quantity, and much free air ſhould be allowed them; and the due obſervation of theſe rules muſt be attendeed to all ſummer. In the autumn they muſt be taken into a good bark ſtove, plunging them up to the rims in the tan-bed, where they muſt conſtantly remain, keeping them warm in winter, and giving them but little water from the time the leaves begin to decay, until you obſerve them to ariſe up afreſh the ſpring following.

Titles. 1. The firſt ſpecies is titled, *Maranta culmo ramoſo*. In the former edition of the *Species Plantarum* it is named ſimply, *Maranta*. Plumier calls it, *Maranta arundinacea, cannacori folio*. It grows naturally in the warmeſt parts of America. Arundinacea.

2. The ſecond ſpecies is titled, *Maranta culmo ſimplici*. It grows naturally in India. Galanga.

Claſs and Order in the Linnean Syſtem. *Maranta* is of the Claſs and Order *Monandria Monogynia*; and the characters are,

The characters. 1. Calyx is a ſpear-ſhaped, ſmall, three-leaved perianthium, placed upon the germen.

2. Corolla is one ringent petal. The tube is oblong, compreſſed, oblique, and inflexed. The limb is divided into ſix parts. The exterior ſegments are ſmall, oval, and of equal ſize. The lateral ones are large, roundiſh, and repreſent a lower lip. The upper ſegment is ſmall, and divided into two parts.

3. Stamina. There is one membranaceous filament extremely like the ſegment of the corolla, having a linear anthera growing to the border.

4. Pistillum conſiſts of a roundiſh germen ſituated below the calyx, a ſimple ſtyle the length of the corolla, and an obſoletely three-cornered, inflexed ſtigma.

5. Pericarpium is a roundiſh, obſoletely three-cornered capſule, formed of three valves.

6. Semen. The ſeed is ſingle, oval, rough, and hard.

CHAP. CLIII.

MARCGRAVIA.

Species.

WE have at preſent only one ſpecies of this genus, called *Marcgravia*.

The plant deſcribed.

This plant riſes with a ligneous, branching, climbing ſtalk, to twelve or fourteen feet high. The leaves are oval, ſpear-ſhaped, entire, of a thickiſh ſubſtance, and grow alternately on ſhort footſtalks. The flowers come out in umbels from the ends of the branches, and are followed by globular, tough-ſkinned, pulpy berries, containing the ſeeds.

Culture.

This plant is propagated by ſeeds procured from abroad. They muſt be ſown on a good hotbed in the ſpring; and when the plants are three or four inches high, they muſt be planted ſeparately in pots filled with good, light, ſandy mould. They muſt be then watered, and plunged into a hotbed of tanner's bark, where they muſt be kept ſhaded until they have taken root; and afterwards they muſt have more air admitted to them by degrees. As they advance in height, proper ſticks muſt be thruſt down by the ſide of each for their ſupport; and as the weather becomes very warm, they muſt have plenty of free air and frequent waterings. In the autumn they muſt be taken into a good bark-ſtove, where they ſhould conſtantly remain under the good care and management due to tender plants.

Titles. Umbellata.

There being no other ſpecies belonging to this genus, it is named ſimply, *Marcgravia*. Plumier calls it, *Marcgravia ſcandens, fructu radiatim poſito*; Brown, *Marcgravia ſcandens, foliis caulinis ſubrotundis ad margines glandulatis, ramorum integris ovatis alternis diſtichè poſitis, floribus umbellatis terminalibus*; and Sloane, *Phyllitidi ſcandenti affinis major, folio craſſo ſubrotundo*. It grows naturally in moſt parts of the warmer America.

Claſs and Order in the Linnæan Syſtem. The characters.

Marcgravia is of the Claſs and Order *Polyandria Monogynia*; and the characters are,

1. CALYX is a ſix-leaved, imbricated, permanent perianthium, the leaves being roundiſh, concave, and the two outer ones the largeſt.

2. COROLLA is one conical, oval, entire, cloſed petal, which falls off, and ſeparates at its baſe from the parts of fructification.

3. STAMINA are many ſhort, awl-ſhaped, patent, deciduous filaments, with large, erect, oval, oblong antheræ.

4. PISTILLUM conſiſts of an oval germen, without any ſtyle; but a capitated, permanent ſtigma.

5. PERICARPIUM is a globular, coriaceous berry, formed of many valves, and containing many cells.

6. SEMINA. The ſeeds are numerous, ſmall, oblong, and nidulant in the ſoft pulp.

CHAP. CLIV.

MARTYNIA.

Species.

BESIDES an Annual before treated of, there is another ſpecies of this genus, called Perennial *Martynia*.

The plant deſcribed.

The root is thick, fleſhy, and full of joints, knots, and tubers. The ſtalks are numerous from a ſtrong root, thick, ſucculent, ſimple, of a purpliſh colour, but often ſpotted, and about a foot high. The leaves are of an oblong figure, of a thickiſh ſubſtance, rough, ſerrated, of a dark-green colour on their upper ſide but purpliſh underneath, and ſit cloſe to the ſtalks. The flowers come out from the tops of the ſtalks in ſhort ſpikes; they are of a blue colour, appear in July and Auguſt, but are ſeldom ſucceeded by ſeeds in England.

Culture.

This ſpecies is propagated by parting of the roots, the beſt time for which is the ſpring, before the ſtalks ſhoot up for flowering. Each off-ſet ſhould be ſet in a pot filled with rich garden mould, and be then plunged into the bark bed in the ſtove. They muſt be ſlightly watered at proper intervals, and in a little time their ſtalks will riſe for flowering: The repetition of watering muſt be then more frequent; though the quantity at each time ſhould be very ſmall, as the roots, being tender and ſucculent, are ſubject to rot through much moiſture. In very hot weather they muſt have much air, but muſt never be removed out of the ſtove; in July and Auguſt they will exhibit their bloom; and in the autumn the ſtalks die to the crown of the root, and freſh ones ariſe in the ſpring.

It is alſo propagated by planting of the cuttings, in pots filled with good garden mould, in any of the ſummer months. The pots muſt be plunged up to the rims in a good bark bed; and if the cuttings are ſhaded and duly watered, they will grow, and ſoon commence good plants.

Titles. Perennis.

This ſpecies is titled, *Martynia caule ſimplici, foliis ſerratis*. In the *Hort. Cliff.* it is termed, *Martynia foliis ſerratis*. It grows naturally near Carthagena in New Spain.

CHAP. CLV.

MELASTOMA, AMERICAN GOOSEBERRY-TREE.

Species.

OF this genus are,
1. *Acinodendron.*
2. Groſſularioide *Melaſtoma.*
3. Hiſpid *Melaſtoma.*
4. Velvet *Melaſtoma.*
5. Rough-leaved *Melaſtoma.*
6. Seſſile-leaved *Melaſtoma.*
7. *Malabathrum Melaſtoma.*
8. Smooth *Melaſtoma.*
9. *Melaſtoma Diſcolor.*

Acinodendron deſcribed.

1. *Acinodendron.* The ſtem is woody, branching, hairy, and ſix or eight feet high. The leaves are oval, ſpear-pointed, acute, have three or five longitudinal ribs, in the manner of Plantain, and grow oppoſite by pairs on the branches. The flowers come out in cluſters from the ends of the branches; they are of a white colour, and are ſucceeded by pulpy berries as large as gooſeberries, in which the ſeeds are lodged.

The berries of this ſpecies, in ſome varieties, are of a blue colour, in others purple, &c.

Groſſularioide,

2. Groſſularioide *Melaſtoma.* The ſtem is robuſt, branching, covered with a brown bark, and fifteen or twenty feet high. The leaves are oval, pointed, ſlightly indented on their edges, trinervous, ſmooth, of an elegant light-green colour, and grow oppoſite by pairs on the branches. The flowers are produced in looſe ſpikes from the ends of the branches; and the fruit is about the ſize of a common gooſeberry, and of a violet colour when ripe.

Hiſpid,

3. Hiſpid *Melaſtoma.* The ſtem of this plant is woody, hiſpid, branching, and ten or twelve feet high. The leaves are oval, ſpear-ſhaped, hairy, of a ruſſet colour on the upper ſide, yellowiſh underneath, have five longitudinal nerves, are a little indented on their edges, and grow oppoſite by pairs. The flowers are produced in cluſters from the ends and ſides of the branches, and are ſucceeded by larger fruit than either of the former ſpecies, and are of a fine blue colour when ripe.

Velvet,

4. Velvet *Melaſtoma.* The ſtem is woody, divides into many ſoft, downy branches, and grows to about eight or ten feet high. The leaves are oval, oblong, trinervous, entire, of a light-green colour on their upper-ſide, white and ſattiny underneath, and grow oppoſite on ſoft, ſilky footſtalks. The flowers are produced in branched ſpikes from the ends of the branches; they are of a yellow colour, and are ſucceeded by roundiſh, pulpy berries, containing the ſeeds.

Rough-leaved,

5. Rough-leaved *Melaſtoma.* The ſtem is woody, and divides into ſeveral branches, which are covered with a woolly, hairy bark; they are heart-ſhaped, very rough, have five conſpicuous nerves running from the point, are indented on their edges, and reticulated on their underſides. The flowers are produced in looſe ſpikes from the wings of the leaves, and are ſucceeded by pulpy berries like the former.

Seſſile-leaved,

6. Seſſile-leaved *Melaſtoma.* The ſtem is woody, branching, and eighteen or twenty feet high. The leaves are ſpatulated, trinervous, entire, of a white colour, downy underneath, and ſit cloſe to the branches. The flowers are produced in ſmall bunches from the different parts of the plant; but they are ſparingly beſtowed, and conſequently the fruit few and inconſiderable for ſo large a tree.

Malabathrum,

7. *Malabathrum Melaſtoma.* The ſtem is woody, angular, ſix or eight feet high, and ſends forth branches by pairs oppoſite from the ſides. The leaves are ſpear-ſhaped, oval, pointed, quinquenervous, rough, hairy, of a ſtrong green colour on their upper-ſide, but paler underneath, and grow oppoſite by pairs on the branches. The flowers are produced in ſmall cluſters from the ends of the branches; they are of a reddiſh-purple colour; and the fruit is large, and of a fine purple colour when ripe.

and Smooth Melaſtoma deſcribed.

8. Smooth *Melaſtoma.* The ſtem is woody, branching; and ſix or eight feet high. The leaves are large, oval, oblong, pointed, ſmooth, ſhining, have five ſtrong, longitudinal nerves, and grow oppoſite to each other. The flowers are produced in looſe bunches from the ends of the branches; they are very ſmall, and are ſucceeded by ſmall, roundiſh fruit, of a blue colour when ripe.

Melaſtoma Diſcolor deſcribed.

9. *Melaſtoma Diſcolor.* The ſtem is woody, and branching. The leaves are oval, oblong, entire, have five longitudinal nerves, and are green near the baſe on the upper-ſide, but of a ſnowy-white colour at the top and underneath. The flowers are produced in kind of umbels from the ends and ſides of the branches, and are ſucceeded by ſoft, pulpy fruit, ſhaped like the preceding, but larger.

There are many varieties of theſe ſpecies, differing in the ſize of growth, and colour of the leaves and fruit. The fruit never ripen in England; and it is the great beauty the leaves afford that makes them ſo deſirable for our ſtoves. The leaves being large, generally green on the upper ſide, but of different colours underneath, being either white, yellow, ruſſet, brown, or a pale green, and continuing all the year, afford an enchanting variety at all ſeaſons, eſpecially in winter, when the vegetable verdure is leſs common.

Culture.

They are all propagated from ſeeds; and as moſt of them grow naturally in Jamaica, they may be eaſily procured from thence. Having therefore obtained the berries, let the ſeeds be cleaned from the pulp and ſand, ſown in pots filled with light, ſandy earth, and plunged into the bark bed. If the ſeeds are freſh, the plants will ſoon come up; and when they are fit to remove, they muſt be potted ſeparately, and plunged into the bark bed as before. Water muſt be given them, and ſhade conſtantly granted until they have taken root, when they ſhould have more air. In the autumn they muſt be taken into a warm ſtove, where they muſt conſtantly remain under the diſcipline and care due to tender plants.

Titles.

Acinoden=
=dron.

1. The firſt ſpecies is titled, *Melaſtoma foliis denticulatis ſubtrinerviis ovatis acutis.* In the *Hort. Cliff.* it is termed, *Melaſtoma foliis ovato-lanceolatis crenatis, nervis quinque longitudinalibus: extimis obſoletioribus.* Plukenet calls it, *Acinodendrum Americanum pentaneuron, foliis craſſis hirſutis ad ambitum*

ambitum rarioribus ſerris; Plumier, *Groſſularia alia, plantaginis folio, fructu rariore violaceo*; and Sloane, *Groſſulariæ fructu arbor maxima non ſpinoſa, malabathri folio maximo inodoro, flore racemoſo albo.* It grows naturally in the warmeſt parts of America.

Groſsu=laroides.

2. The ſecond ſpecies is titled, *Melaſtoma foliis denticulatis triplinerviis ovatis acuminatis.* Plukenet calls it, *Arbor Americana, latiore & acuminato folio trinervio, utrinque glabro & margine læviter crenato.* It is a native of Surinam.

Hirta

3. The third ſpecies is titled, *Melaſtoma foliis denticulatis quinquenerviis ovato-lanceolatis, caule hiſpido.* Plumier calls it, *Groſſularia plantaginis folio anguſtiore hirſuto*; Sloane, *Groſſulariæ fructu non ſpinoſa, malabathri foliis longâ & rufâ lanugine hirſutis, fructu majore cæruleo*; and Plukenet, *Arbuſcula Jamaïcenſis quinquenervia, minutiſſimè dentatis foliis & caule pubeſcentibus.* It grows naturally in moſt Iſlands of the Weſt Indies.

Holoſe=ricea.

4. The fourth ſpecies is titled, *Melaſtoma foliis integerrimis trinerviis oblongo-ovatis ſubtus tomentoſis, racemis brachiatis, ſpicis bipartitis.* In the *Hort. Cliff.* it is termed, *Melaſtoma foliis integerrimis ovato-lanceolatis ſericeis: nervis ante baſin coadunatis.* Plukenet calls it, *Acinodendrum Americanum, ampliore folio trinervi, inferius albâ lanugine incano maximo utrinque glabro*; and Breynius, *Arbor racemoſa Braſiliana, folio malabathri.* It grows moſtly in the Braſil Iſlands, Jamaica, and Surinam.

Scabrosa.

5. The fifth ſpecies is titled, *Melaſtoma foliis denticulatis quinquenerviis cordatis ſcabris ſubtus tomentoſis, ramis tomentoſo-villoſis.* Brown calls it, *Melaſtoma ſubhirſuta, foliis cordatis ſcabris minutiſſimè denticulatis reticulatis, racemis minoribus alaribus.* It grows naturally in Jamaica.

Seſsili=folia.

6. The ſixth ſpecies is titled, *Melaſtoma foliis integerrimis trinerviis ſpatulatis ſeſſilibus ſubtus tomentoſis.* Brown calls it, *Melaſtoma foliis amplioribus per petiolum recurrentibus & contractis, faſciculis florum ſparſis*; and Plukenet, *Arbor Americana, foliis è concurſu nervorum imâ parte longius productis, ſubtus lanugine candicante tomentoſis.* It grows in Jamaica.

Melabath=trica.

7. The ſeventh ſpecies is titled, *Melaſtoma foliis integerrimis quinquenerviis lanceolato-ovatis ſcabris.* Burman calls it, *Melaſtoma quinquenervia hirta major, capitulis ſericeis villoſis*; and Rheede, *Kadali.* It grows in India.

Lævigata.

8. The eighth ſpecies is titled, *Melaſtoma foliis integerrimis quinquenerviis ovato-oblongis læviuſculis acuminatis: margine lævibus.* Brown calls it, *Melaſtoma fruticoſa minor, foliis tenuibus ovatis, racemis terminalibus*; Sloane, *Groſſulariæ fructu arbor non ſpinoſa, malabathri folio maximo glabro & ſplendente*; and Plumier, *Groſſularia plantaginis lato folio, fructu minimo cæruleo.* It grows naturally in America.

Discolor.

9. The ninth ſpecies is titled, *Melaſtoma foliis integerrimis quinquenerviis oblongo-ovatis glabris margine lævibus.* Plumier calls it, *Groſſularia plantaginis folio, apicibus candidis & falcatis*; Sloane, *Groſſulariæ fructu non ſpinoſa, malabathri foliis ſubtus niveis, fructu racemoſo umbellæ modo diſpoſito*; and Plukenet, *Arbor Americana quinquenervia, comantibus floſculis, foliis ampliſſimis glabris pronâ parte albicantibus.* It grows naturally in America.

Claſs and Order in the Linnæan Syſtem. The characters.

Melaſtoma is of the Claſs and Order *Decandria Monogynia*; and the characters are,

1. CALYX is a monophyllous, obtuſe, ſwelling, permanent perianthium, indented in five parts at the top.

2. COROLLA is compoſed of five roundiſh petals inſerted in the mouth of the calyx.

The nectarium conſiſts of five ſcales ſituated under the filament.

3. STAMINA are ten ſhort filaments inſerted in the calyx, having long, ſubcurved, erect antheræ.

4. PISTILLUM conſiſts of a roundiſh germen within the calyx, a ſtraight, filiforme ſtyle, and an obtuſe ſtigma.

5. PERICARPIUM is a roundiſh, coronated berry, covered by the calyx, and containing five cells.

6. SEMINA. The ſeeds are many, and nidulant.

C H A P. CLVI.

MELIA, The BEAD TREE.

THE Common Bead Tree is a native of Syria, and appears to great advantage in our Deciduous Plantations in open air. There is a variety of it which grows naturally in Ceylon, is very tender, a delightful Evergreen, and beautifully figures with other plants in the Stove. It is called,

Species.

1. The Evergreen Bead Tree of Ceylon.

To this muſt be added a diſtinct ſpecies, called,

2. *Azadirachta*, or the Indian Bead Tree.

The Evergreen Bead-tree of Ceylon deſcribed.

1. The Evergreen Bead Tree of Ceylon grows to near twenty feet high, having a robuſt trunk, covered with a dark-purple bark, which is very bitter to the taſte, and ſends forth many branches, that ſpread themſelves every way. The leaves are bipinnated, diſagreeably ſcented, of a light-green colour, grow ſometimes oppoſite, ſometimes alternately, on longiſh footſtalks; and the folioles are oblong, acute-pointed, and ſerrated on their edges. The flowers come out from the ſides of the branches in long, branching panicles; they are ſmall, and of a bluiſh colour, with a mixture of purple and white, and, in India, continue in ſucceſſion the greateſt part of the year. With us they frequently flower, and are ſometimes ſucceeded by fruit, which is roundiſh, ſoft, oily, and bitter to the taſte; is at firſt green, then yellow, and of a deep-purple colour when ripe.

Azadirachta, or the Indian Bead tree deſcribed.

2. *Azadirachta*, or the Indian Bead Tree, is a robuſt, branching tree, whoſe trunk is covered with a dark-purple bark. The leaves are pinnated; each of them is compoſed of about five or ſix pair of oblong, pointed, ſerrated folioles, which are terminated by an odd one; and the whole leaf has much the appearance of that of the Aſh Tree. The flowers come out from the ſides of the branches in long, branching panicles; their colour is white; and they are ſucceeded by oval fruit, about the ſize of a ſmall Olive, which is at firſt green, then yellow, and of a deep purple colour when ripe.

Culture.

Theſe plants are raiſed by ſowing the ſeeds in pots filled with light, ſandy earth, and plunging them up to the rims in a hotbed of tanner's bark.

When the plants are fit to remove, each ſhould be ſet in a ſeparate pot, which ſhould be plunged again up to the rims in a ſecond hotbed: They muſt be watered and ſhaded until they have taken root, in hot weather in ſummer muſt have plenty of air, and in autumn muſt be received into the temperate ſtove. There they muſt conſtantly remain for four or five years, until they become ſtrong and hardy; and then they may be ſet abroad in a warm, well-ſheltered place, during the heat of the ſummer. From time to time they will become more hardy, and may, if there is a neceſſity for it, be ſtationed in the dry ſtove; and afterwards, when they are ſtill more woody, may be kept in a good green-houſe, if ſtove-room be wanting.

Titles.

1. The Evergreen Bead Tree of Ceylon is titled, *Melia foliis bipinnatis.* Tournefort calls it, *Azadirachta Indica, foliis ramoſis minoribus, flore albo ſub-cæruleo purpuraſcente majore.* It grows naturally in Ceylon. Azedarach.

2. *Azadirachta*, or Indian Bead Tree, is titled, *Melia foliis pinnatis.* Plukenet calls it, *Olea Malabarica, fraxini folio*; Burman, *Azadirachta Indica, folio fraxini*; and Caſpar Bauhine, *Arbor Indica, fraxino ſimilis, oleæ fructu.* It reſides in India. Azadirachta.

CHAP. CLVII.

MEMECYLON.

Species. THERE is only one ſpecies of this genus called, *Memecylon.*

Memecylon deſcribed. The ſtalk is woody, branching, and grows to ten or twelve feet high. The leaves are oval, and full of juice, which will ſtain paper or linen of a kind of ſaffron colour. The flowers are collected in ſmall, roundiſh heads at the wings of the leaves; they appear in the early part of the ſummer, and are ſucceeded by coronated berries, which do not ripen in England.

Culture. This plant is propagated by layers, or planting of the cuttings in the ſpring, and plunging them into a hotbed of tanner's bark. They muſt be watered and kept ſhaded at firſt, and afterwards muſt have more air according to the heat of the ſeaſon; but they muſt not be taken out of the hotbed until the autumn, when they ſhould be moved into a pretty good bark ſtove for their winter lodgings.

Titles. Though there is no other ſpecies of this genus, it ſtands with the title given it in the *Flora Zeylanica*, namely, *Memecylon foliis ovatis.* Burman calls it, *Cornus ſylveſtris, foliis croceum colorem tingentibus, floſculis ad foliorum alas globoſis.* It grows naturally in Ceylon. Capitellatum.

Claſs and Order in the Linnæan Syſtem. *Memecylon* is of the Claſs and Order *Octandria Monogynia*; and the characters are,

The characters.

1. CALYX is an undivided, entire, bell-ſhaped, turbinated, permanent perianthium, placed upon the germen.
2. COROLLA conſiſts of four oval, acute, patent petals.
3. STAMINA are eight awl-ſhaped, erect filaments, with ſimple antheræ.
4. PISTILLUM conſiſts of a turbinated germen ſituated below the calyx, an awl-ſhaped ſtyle, and a capitated ſtigma.
5. PERICARPIUM is a berry crowned with the cylindrical calyx.
6. SEMINA. . . . . . .

CHAP. CLVIII.

MIMOSA, The SENSITIVE PLANT.

Species. THERE are of this genus in the Stove,

1. The Senſitive Plant.
2. Digitated Senſitive Plant, or Humble Plant.
3. *Inga*, or the Unarmed Pinnated Senſitive Plant.
4. Unarmed Bipinnated Senſitive Plant.
5. Live Plant.
6. Senſeleſs Plant.
7. Quadrivalved Senſitive Plant.
8. Rough Thorny Senſitive Plant.
9. Spotted Senſitive Plant.
10. Senegal *Mimoſa.*
11. True *Acacia.*
12. Glaucous *Acacia.*
13. *Fagus*-leaved *Acacia.*
14. Shrubby Thornleſs *Acacia.*
15. Broad-leaved *Acacia.*
16. Purple *Acacia.*
17. Tree *Acacia.*
18. Single-ſpined *Acacia.*
19. Great-horned *Acacia.*
20. Indian *Acacia.*
21. Pennated *Acacia.*
22. Madraſs *Acacia.*
23. Tamarind-leaved *Acacia.*

Senſitive Plant deſcribed. 1. The Senſitive Plant. The ſtalk is tender, ligneous, armed with ſhort, crooked thorns, and grows to about ſix or eight feet high. The leaves are pinnated; and two of them grow together on a long prickly footſtalk, each conſiſting of two pair of pinnæ; the inner ones are the leaſt, and they, together with their footſtalks, fall on being touched, and riſe again ſoon after. The flowers are produced in roundiſh heads from the ſides of the branches, growing on ſhort footſtalks; they are of a pale-purple colour, and are ſucceeded by flat, jointed, radiated pods, containing the ſeeds, which often ripen in England.

Digitated Senſitive Plant, or Humble Plant deſcribed. 2. Digitated Senſitive Plant, or Humble Plant. The ſtalk is ligneous, round, divides into many branches, grows two or three feet high, is armed with ſmall, hooked, ſharp thorns, and cloſely beſet with ſtinging, briſtly hairs. The leaves are compoſed of four, five, or more folioles, which join at their baſe, ſpread open like the fingers, and are elevated on a long footſtalk: The pinnæ are oblong, ſmall, and numerous; and theſe, together with their footſtalks, on the leaſt touch, droop as it were under the preſſure, but ſoon riſe again in their uſual vigour. The flowers come out from the ends of the branches in roundiſh heads, are of a greeniſh-white colour, frequently with a tinge of purple, and ſucceeded by ſmall, echinated, pointed pods, containing the ſeeds, which ripen very well in England.

Inga, or the Unarmed Pinnated,

3. *Inga*, or the Unarmed Pinnated Senſitive Plant. The ſtalk is unarmed with thorns, ligneous, divides into many ſpreading branches, and grows to eight or ten feet high. The leaves are pinnated, and grow on articulated, membranaceous footſtalks. The flowers come out in ſpikes from the ends and ſides of the branches, are of a white or purple colour, and are ſucceeded by fleſhy pods of a ſweet, agreeable flavour, which are much coveted by the negroes.

and Unarmed Bipinnated Senſitive Plant deſcribed.

4. Unarmed Bipinnated Senſitive Plant. The ſtalk is upright, angular, ligneous, branching, and grows to ſix or ſeven feet high. The leaves are bipinnated; and the pinnæ are extremely numerous, ſmall, ſmooth, and rounded at their points. The flowers come out from the wings of the leaves in bending, roundiſh ſpikes, growing on long footſtalks; are of a yellow colour; and ſucceeded by narrow, ſmooth pods, in which the ſeeds ripen very well in England. The pinnæ only of this ſpecies give way on being touched, and not the footſtalk; ſo that it is not ranked among the Humble Plants.

Live Plant deſcribed.

5. The Live Plant. The ſtalks are herbaceous, tender, lie on the ground, ſtrike root at the joints, and ſoon ſpread themſelves every way. The leaves are conjugated, pinnated; and each conſiſts of about two pair of roundiſh, ſhort, narrow pinnæ, which recede ſo rapidly and ſpeedily from the touch, as to gain it the appellation of the Live Plant. The flowers are produced from the wings of the leaves in roundiſh heads, are ſmall, of a pale-yellow colour, and ſucceeded by ſhort, ſhort, flat, jointed pods, containing the ſeeds.

Senſeleſs Plant deſcribed.

6. Senſeleſs Plant. This is often called the Slothful Plant, from the little tendency the leaves have to recede from the touch of the finger. The ſtalks are ſmooth, branching, grow two or three feet high, and, unleſs ſupported, lie on the ground. The leaves are bipinnated; the pinnæ are three or four pair on each wing, ſhort, narrow, and do not contract on being handled. The flowers come out in ſmall heads from the wings of the leaves, growing on ſlender footſtalks; and are ſucceeded by long, narrow, ſmooth pods containing the ſeeds, which ripen in England.

Quadrivalved,

7. Quadrivalved Senſitive Plant. The root is creeping. The ſtalk is ſlender, herbaceous, ſquare, and armed with ſhort, recurved ſpines. The leaves are bipinnated, and conſiſt of two or three pair of wings, which are compoſed of many ſhort, narrow pinnæ, and are but thinly diſpoſed on the branches, growing on long, prickly footſtalks. The flowers come out on footſtalks from the wings of the leaves in globular heads, are of a purple colour, and ſucceeded by four-cornered pods, compoſed each of four valves, full of angular ſeeds.

Rough Thorny,

8. Rough Thorny Senſitive Plant. The ſtalk is woody, upright, five or ſix feet high, rough, hairy, and armed with ſhort, ſtrong, broad, white-coloured thorns. The leaves are bipinnated, being compoſed of five or ſix pair of wings arranged oppoſite to each other, having between each pair two ſhort, ſtrong, ſharp-pointed thorns. The flowers are collected in globular heads, and come out from the ends and ſides of the branches on ſhort footſtalks; they are of a bright-purple colour, and ſucceeded by flat, jointed pods, five or ſix uſually growing together, which join at their baſe, and ſpread themſelves in a radiated manner from the top of the footſtalk.

and Spotted Senſitive Plant deſcribed.

9. Spotted Senſitive Plant. The ſtalk is ligneous, upright, taper, unarmed with ſpines, but irregularly marked with ſeveral ſpots. The leaves are bipinnated, and conſiſt of about four pair of wings, having a depreſſed gland ſituated between their firſt pair. The flowers are collected in oblong ſpikes, ariſing from the ends and ſides of the branches, on long footſtalks, and are ſucceeded by compreſſed, falcated pods, containing the ſeeds.

Senegal Mimoſa deſcribed.

10. Senegal *Mimoſa*. The ſtalk is woody, armed with triple ſpines, and covered with a white bark. The leaves are bipinnated, and at the baſe of each are ſituated three ſpines, the middle one being reflexed. The flowers come out in ſpikes from the ends and ſides of the branches, and are ſucceeded by ſmooth, oval, compreſſed pods, containing the ſeeds.

Culture.

All theſe ſorts of Senſitive Plants are beſt raiſed from ſeeds; though many of them may be propagated by layers or cuttings, planted in pots, then plunged up to the rims in a hotbed, and ſhaded and watered until they have taken root.

The ſeeds ſhould be ſown on a hotbed early in the ſpring; and, when the plants grow up, the ſtricteſt care muſt be taken to grant them a due and ſufficient quantity of air, to prevent their drawing weak, and becoming bad in colour. When they are about three inches in height, they will be fit to remove; they muſt then be ſet ſeparately in pots, preſerving as much mould as poſſible to the roots, be again plunged up to the rims in a bark-bed, and be ſhaded and watered until they have taken root. From thence they ſhould be removed into the warmeſt ſtove, and kept as hot as poſſible, in order to increaſe their ſenſitive quality; for although theſe plants may be hardened ſo as to bear the open air in ſummer, yet, as they are chiefly raiſed on account of the ſhrinking property of their leaves on contact, this property abates in proportion as they are hardened to the air, and is proportionally heightened by the heat of their ſituation; which ſhould teach all lovers of theſe plants to grant them the hotteſt reſidence, if they would chuſe to have their quality in perfection. Thoſe plants whoſe leaves only fall from the touch are termed Senſitive Plants; and ſuch as fall with their footſtalks are termed Humble Plants; ſo that the plant will readily ſhew you to which of theſe two appellations it belongs.

The other thirteen ſorts are *Acacias*, and their leaves are deſtitute of this motion. They are trees or ſhrubs of different heights; their leaves are winged, or doubly winged, as their titles ſet forth; they bear flowers in ſpikes, ſome yellow, ſome white, ſome blue, ſome purple, &c. and two of them are ſucceeded by large, flat pods, containing the ſeeds, which frequently ripen in England. They are raiſed from ſeeds in the ſame manner as the Senſitive Plants; but as they grow to a larger ſize, muſt from time to time be ſhifted into larger pots, and placed in winter in a good ſtove.

The eleventh ſort is the *Acacia* which yields the true *Succus Accaiæ*, and whence the Gum Aarbic of the ſhops exludes.

Titles.

Senſitiva. 1. The Senſitive Plant is titled, *Mimoſa aculeata, foliis conjugatis pinnatis; partialibus bijugis; intimis minimis.* Van Royen calls it, *Mimoſa caule aculeato, foliis geminatis; partialibus tetraphyllis, foliolis intimis minimis*; and Breynius, *Mimoſa ſpinoſa prima, ſive Braſiliana latifolia, ſiliquis radiatis.* It grows naturally in the Braſil Iſlands.

Pudica. 2. The Digitated Senſitive Plant, or Humble Plant, is titled, *Mimoſa aculeata, foliis ſubdigitatis pinnatis, caule hiſpido.* In the *Hort. Cliff.* it is termed, *Mimoſa foliis digitatis; foliolis pinnatis, caule aculeato hiſpidoque, foliis pinnato-palmatis; ſingulis numeroſè pinnatis.* Plumier calls it, *Mimoſa humilis fruteſcens et ſpinoſa, ſiliquis conglobatis*; Breynius, *Mimoſa ſpinoſa tribus ſiliquis parvis echinatis*; and Commeline, *Æſchynomene ſpinoſa, flore globoſo albido, ſiliculis articulatis echinatis.* It is a native of the Braſils.

Inga 3. *Inga*, or the Unarmed Pinnated Senſitive Plant, is titled, *Mimoſa inermis, foliis pinnatis quinquejugis; petiolo articulato marginato.* In the *Hort. Cliff.* it is termed, *Mimoſa inermis, foliis pinnatis; petiolis membranaceis alatis.* Sloane calls it, *Arbor ſiliquoſa Braſilienſis, foliis pinnatis, coſta media membranulis extantibus*; and Plumier, *Inga flore albo fimbriato, fructu dulci.* It is a native of the Braſils.

Virgata. 4. Unarmed Bipinnated Senſitive Plant is titled, *Mimoſa inermis, foliis bipinnatis, ſpicis decandris; inferioribus caſtratis maſculis, caule erecto angulato.* In the *Hort. Cliff.* it is termed, *Mimoſa inermis, foliis duplicato-pinnatis, ſiliquis linearibus glabris.* It grows naturally in India.

Viva. 5. The Live Plant is titled, *Mimoſa inermis, foliis conjugatis pinnatis; partialibus quadrijugis ſubrotundis, caule inermi herbaceo.* Brown calls it, *Mimoſa minima herbacea vix tripollicaris, capſulis monoſpermibus hirſutis*; and Sloane, *Mimoſa herbacea non ſpinoſa minima repens.* It grows naturally in the meadows of Jamaica.

Pernambucana. 6. The Senſeleſs, or Slothful Plant is titled, *Mimoſa inermis decumbens, foliis bipinnatis, ſpicis cernuis pentandris; inferioribus craſſatis, caule decumbente.* In the *Hort. Cliff.* it is termed, *Mimoſa inermis, foliis duplicato-pinnatis, ſiliquis linearibus glabris.* Plukenet calls it, *Mimoſa Americana pigra, ſiliquis longis anguſtis allium olentibus.* It grows naturally in America.

Quadrivalvis. 7. Quadrivalved Senſitive Plant is titled, *Mimoſa aculeata, foliis bipinnatis, caule quadrangulo; aculeis recurvis, leguminibus quadrivalvibus.* Van Royen calls it, *Mimoſa undique aculeata, caule angulato, foliis duplicato-pinnatis; partialibus utrinque ternis.* It grows naturally at Vera Cruz.

Asperata. 8. Rough Thorny Senſitive Plant is titled, *Mimoſa aculeata hirta, foliis bipinnatis oppoſitè aculeatis, ſpinâ erectâ longiore inter ſingula partialia.* Brown calls it, *Mimoſa fruteſcens ſpinoſa et aculeata, ſiliquis hirſutis*; and Breynius, *Æſchynomene ſpinoſa* VI. It grows naturally in Jamaica and Vera Cruz.

Punctata. 9. Spotted Senſitive Plant is titled, *Mimoſa inermis, foliis bipinnatis, ſpicis decandris; inferioribus caſtratis corollatis, caule erecto tereti.* Brown calls it, *Mimoſa fruteſcens inermis ſiliquis compreſſis falcatis umbellatis, pedunculo longiſſimo.* It grows naturally in America.

Senegal. 10. Senegal *Mimoſa* is titled, *Mimoſa ſpinis ternis; intermediâ reflexâ, foliis bipinnatis, floribus ſpicatis.* Caſpar Bauhine calls it, *Acacia*; and Plukenet, *Acacia altera vera, ſiliquâ longâ villoſâ, cortice candicante donata.* It grows naturally in Arabia.

11. True *Acacia* is titled, *Mimoſa ſpinis ſtipularibus patentibus, foliis bipinnatis; partialibus extimis glandulâ interſtinctis, ſpicis globoſis pedunculatis.* Caſpar Bauhine calls it, *Acacia foliis ſcorpioides leguminoſæ*; and John Bauhine, *Acacia vera.* It grows naturally in Egypt and Arabia. Nilotica.

12. Glaucous *Acacia* is titled, *Mimoſa inermis, foliis bipinnatis; partialibus ſejugis; pinnis plurimis, glandulâ inter infima.* Breynius calls it, *Mimoſa arboreſcens non ſpinoſa, pinnis acaciæ latioribus infernè flore albo*; and Cateſby, *Acacia buxi foliis rotundioribus, floribus albis, ſiliquâ latâ compreſſâ.* It grows naturally in America. Glauca.

13. *Fagus*-leaved *Acacia* is titled, *Mimoſa inermis, foliis pinnatis bijugis, petiolo marginato.* Plukenet calls it, *Arbor ſiliquoſa, faginis foliis, Americana, florbus comoſis.* It is a native of Barbadoes. Fagifolia.

14. Shrubby Thornleſs *Acacia* is titled, *Mimoſa inermis, foliis tergeminis.* Plumier calls it, *Acacia fruteſcens non aculeata, flore purpuraſcente.* It is a native of America. Tergemina.

15. Broad-leaved *Acacia* is titled, *Mimoſa inermis, foliis conjugatis; pinnis terminalibus oppoſitis; lateralibus alternis.* Plumier calls it, *Acacia non ſpinoſa, juglandi folio, flore purpuraſcente.* It grows naturally in America. Latifolia.

16. Purple *Acacia* is titled, *Mimoſa inermis, foliis conjugatis pinnatis; foliolis intimis minoribus.* Plumier calls it, *Acacia fruteſcens non aculeata, flore purpuraſcente, alia.* It grows naturally in America. Purpurea.

17. Tree *Acacia* is titled, *Mimoſa inermis, foliis bipinnatis, pinnis dimidiatis acutis, caule arboreo.* Brown calls it, *Mimoſa arborea, cortice cinereo, ſpicâ globoſâ, ſiliquâ internè rubente, ſeminibus ſphæricis atro-nitentibus*; and Sloane, *Acacia arborea maxima non ſpinoſa, pinnis majoribus, flore albo, ſiliquâ contortâ coccineâ ventricoſâ elegantiſſimâ.* It grows naturally in moſt parts of Jamaica and the Caribbees. Arborea

18. Single-ſpined *Acacia* is titled, *Mimoſa aculeata, foilis bipinnatis, pinnis incurvis, caule angulato.* In the *Hort. Cliff.* it is termed, *Mimoſa aculeis undique ſparſis ſolitariis, foliis duplicato-pinnatis, caule angulato.* It grows naturally in India. Intsia.

19. Great Horned *Acacia* is titled, *Mimoſa ſpinis ſtipularibus geminis connatis, foliis bipinnatis.* Commeline calls it, *Acaciæ ſimilis, ſpinis corniformibus, Mexicana.* It grows naturally in Mexico and Cuba. Cornigera.

20. Indian *Acacia* is titled, *Mimoſa aculeata, foliis bipinnatis; pinnis ovali-oblongis obliquè acuminatis.* Plukenet calls it, *Acacia ſpinoſa, Indiæ Orientalis, foliis ſubtus cæſiis, floribus globoſis luteis.* It grows naturally in India. Casia.

21. Pennated *Acacia* is titled, *Mimoſa aculeata, foliis bipinnatis numeroſiſſimis lineari-aceroſis, paniculâ aculeatâ, capitulis globoſis.* Burman calls it, *Acacia aculeata multiflora, foliis pennas avium referentibus.* It grows naturally in Ceylon. Pennata.

22. Madraſs *Acacia* is titled, *Mimoſa ſpinis ſtipularibus longitudine foliorum, foliis bipinnatis; partialibus ſubſejugis, ramis lævibus.* Plukenet calls it, *Acacia Maderaſpatana, foliis parvis, aculeis è regione binis prægrandibus horrida, cortice cinereo.* It grows naturally in both the Indies. Horrida

23. Tamarind-leaved *Acacia* is titled, *Mimoſa aculeata, foliis bipinnatis quinquejugis, partialibus ſubdecemjugis, petiolis communibus inermibus.* Plumier calls it, *Acacia aculeata, flore albo, foliis tamarindi.* It grows naturally in America. Tamarindi-folia.

CHAP. CLIX.

MORINDA.

Species.

THERE are three ſpecies of this genus, called,

1. Umbellated *Morinda.*
2. Citron-leaved *Morinda.*
3. Procumbent *Morinda*, or *Royoc.*

Umbellated,

1. Umbellated *Morinda.* The ſtalk is upright, woody, branching, and ſix or eight feet high. The leaves are ſpear-ſhaped, and oval. The flowers are produced in umbels from the ends and ſides of the branches, and are followed by ſuboval, angular berries, containing the ſeeds.

Citron-leaved,

2. Citron-leaved *Morinda* grows to the ſize of a moderate tree. The leaves are of a fine green colour, elegant, and ſhaped ſomewhat like thoſe of the Citron Tree. The flowers come out ſingly on footſtalks from the wings of the leaves, and are ſucceeded by angular, compreſſed berries, containing two ſeeds.

and Procumbent Morinda, or Royoc, deſcribed.

3. Procumbent *Morinda*, or *Royoc.* The ſtalks are numerous, ligneous, and ſpread themſelves every way on the ground. The leaves are oblong, pointed, of a fine ſtrong green colour, and ſomewhat reſemble thoſe of the Bay Tree. The flowers come out along the ſides of the branches, and are followed by angular, compreſſed berries, each containing two ſeeds.

Culture.

Theſe plants are beſt propagated by ſeeds procured from abroad. They muſt be ſown on a hotbed in the ſpring; and when the plants are fit to remove, they muſt be planted ſeparately in pots filled with good garden mould, and plunged into a hotbed of tanner's bark. Here they ſhould be watered and ſhaded at firſt, and muſt by degrees be uſed to bear a large ſhare of air. In the autumn they muſt be taken into a temperate bark ſtove, and managed like other tender plants.

The laſt ſort is eaſily propagated by ſlips from the roots, which, if taken off, planted in pots, and plunged into the bark bed, will readily grow, and ſoon commence good plants

Titles.

1. The firſt ſpecies is titled, *Morinda erecta, foliis lanceolato-ovatis, pedunculis confertis.* Rumphius calls it, *Bancudus anguſtifolia.* It grows naturally in India.

Umbellata

2. The ſecond ſpecies is titled, *Morinda arborea, pedunculis ſolitariis.* Rumphius calls it, *Bancudus latifolia*; and Rheede, *Coda-pilava.* It grows naturally in India.

Citrifolia

3. The third ſpecies is titled, *Morinda procumbens.* Vaillant calls it, *Morinda Americana humifuſa laurifolia*; Plumier, *Royoc humifuſum, fructu cupreſſino*; and Plukenet, *Periclymenum Americanum, è cujus radice fit atramentum.* It grows naturally in moſt of the warm parts of America

Royoc.

Claſs and Order in the Linnæan Syſtem.

Morinda is of the Claſs and Order *Pentandria Monogynia*; and the characters are,

The characters.

1. CALYX. The common receptacle is roundiſh, and collects the ſeſſile flowers into the form of a globe. The perianthium is very ſmall, ſituated above the germen, and indented in five parts at the edge.

2. COROLLA is one infundibuliforme petal. The tube is cylindrical. The limb is cut into five ſpreading, plane, ſpear-ſhaped, ſharp-pointed ſegments.

3. STAMINA are five very ſhort filaments, inſerted into the upper part of the tube, having linear, erect antheræ nearly the length of the tube.

4. PISTILLUM conſiſts of a germen ſituated below the calyx, a ſimple ſtyle, and a thickiſh, bifid ſtigma.

5. PERICARPIUM is a ſuboval, angular, truncated berry, compreſſed on all ſides by the adjoining ones, and containing one cell.

6. SEMINA. The ſeeds are two, convex on one ſide, and plane on the other.

CHAP. CLX.

MORUS, The MULBERRY-TREE.

Species.

IN the ſtove muſt be placed,

1. The Green-fruited Mulberry Tree, called Fuſtick Wood.
2. The Indian Mulberry Tree.

Green-fruited Mulberry Tree deſcribed.

1. Green-fruited Mulberry Tree, or Fuſtick Wood. The natural growth of this tree is ſixty feet or more in height. The trunk is proportionably large, firm, covered with a light-brown, furrowed bark, and ſends forth numerous branches from the ſides, which are poſſeſſed of a whitiſh bark. The leaves are oblong, broader on one ſide than the other, indented at their baſe, acute-pointed, rough, of a dark-green colour, and grow on ſhort footſtalks. The katkins come from the ends of the branches, and are of a greeniſh colour; and the female flowers come out in ſmall heads, all over the tree, on ſhort footſtalks: Theſe are ſucceeded by green mulberries, of a luſcious ſweetneſs when ripe. They are poſſeſſed of the like kind of protuberances as our Common Mulberry, and are green both within and without.

Uſeful property of the wood.

It is the wood of this tree, called Fuſtick, which is uſed in dying, and is conſtantly imported from Jamaica for that purpoſe. The wood itſelf is of a bright yellow colour, and dyes a ſulphur colour. The tree grows naturally all over the Weſt Indies, and in ſuch plenty, that whole woods are found of it, like the beech, &c. in England.

Indian Mulberry Tree deſcribed,

2. Indian Mulberry Tree. This alſo is a large tree in India. The wood is firm, but the bark is ſoft, thick, yellowiſh, and replete with a milky, aſtringent juice. The leaves are oval, oblong, equal on both ſides, but their edges are unequally ſerrated, rough, of a dark green

colour on their upper ſide, but paler underneath, and grow alternately on ſhort footſtalks. The flowers come out from the ſides of the branches in roundiſh heads; they are of a whitiſh-green colour, and the female flowers are ſucceeded by roundiſh fruit, which ſhews itſelf firſt of a green colour, next white, and afterwards, when full ripe, of a dark red colour.

Culture. Theſe ſorts are eaſily raiſed by ſeeds, cuttings, or layers. The ſeeds ſhould be ſown in pots, and plunged into a hotbed of tanner's bark; and when the plants are fit to remove, each ſhould have a ſeparate pot, and be brought forward in a ſecond hotbed: The cuttings alſo ſhould be planted in pots, and plunged up to the rims in a good bark bed. They muſt be conſtantly ſhaded, and frequently watered, whether ſeedling plants, cuttings, or layers, until they have taken root; and in the autumn they may be removed into the temperate ſtove, and in that ſituation they will retain their leaves all winter. From time to time they muſt be ſhifted into larger pots, and finally into tubs; muſt have little water in winters, which otherwiſe cauſes them to drop their leaves; and when the trees get to be eight or ten feet high, you may expect them to ſhew their flowers and fruit.

Titles. Tinctoria.

1. Green-fruited Mulberry Tree, or Fuſtick Wood, is titled, *Morus foliis oblongis baſi hinc productioribus, ſpinis axillaribus ſolitariis.* Brown calls it, *Morus lacteſcens, foliis oblongis acutis paginis exterioribus productioribus, ligno citrino*; Sloane, *Morus fructu viridi, ligno ſulphureo tinctorio*; Plukenet, *Zanthoxylum aculeatum, carpini foliis, Americanum, cortice cinereo*; and Ray, Fuſtick Wood. It grows naturally in Jamaica and the Braſil Iſlands.

Indica.

2. Indian Mulberry Tree is titled, *Morus foliis ovato-oblongis utrinque æqualibus, inæqualiter ſerratis.* Rumphius calls it, *Morus Indica*; Rheede, *Tinda-parva.* It grows naturally in India.

CHAP. CLXI.

MUNTINGIA.

THERE is only one ſpecies of this genus yet known, called, *Muntingia.*

The plant deſcribed. This ſpecies admits of many varieties. The ſtem is robuſt, ſends out many brown or purpliſh-coloured branches near the top, and the tree grows to be twenty feet high. The leaves in general are ſhaped like thoſe of the Hazel nut Tree, but are of different ſorts in the different varieties; ſome being longer and a little ſpeared, others almoſt round, and heart ſhaped at the baſe; in ſome varieties they are rough to the touch, in others ſoft and ſmooth, and in all they grow alternately on footſtalks. The flowers come out on footſtalks from the wings of the leaves; they are of a white or yellow colour, (for there are both kinds) and are ſucceeded by globular, umbilicated berries, containing the ſeeds. The berries are of different ſizes in the different varieties; their colour alſo varies, ſome being yellow, ſome of a deep-orange, ſome white, and others purple, when ripe.

Culture. This plant is propagated by ſowing the ſeeds in pots filled with light, rich earth, and plunging them into a hotbed of tanner's bark. When the plants are three or four inches high, they muſt be potted ſeparately, be again plunged into the bark bed, and be watered and kept ſhaded until they have taken root; after that, watering in ſmall quantities at a time muſt be allowed them, and plenty of freſh air, eſpecially in hot weather. In the autumn they muſt be taken into the bark ſtove, where they muſt conſtantly remain for four or five years, by which time they will be grown to be ſtrong plants, and may be ſet abroad for about two months in the hotteſt part of the ſummer, and in the winter may be preſerved in a dry ſtove if neceſſary, though they do beſt in a bark ſtove of the moſt temperate ſort. It ſometimes happens that the ſeeds remain a whole year before they come up. When this is the caſe, the pots muſt be kept clean from weeds, the mould now and then watered when it becomes dry, and their ſtation ſhould be in the hotbed until the end of ſummer; and in the autumn they muſt be plunged into the bark bed of the ſtove. The ſpring following they ſhould be plunged into a freſh hotbed, and the plants will come up in plenty if the ſeeds are good, when they ſhould be thinned where they are too cloſe, potted ſeparately when about three inches high, and managed as before.

Titles. Calabura.

There being no other ſpecies of this genus, it is named ſimply, *Muntingia.* In the *Hort. Cliff.* it is termed, *Muntingia pedunculis unifloris.* Brown calls it, *Muntingia fruticoſa villoſa, foliis ſerratis oblongis uno latere brevioribus*; Plumier, *Muntingia folio ſericeo molli, fructu majori*; Plukenet, *Calabura alba*; and Sloane, *Loti arboris folio anguſtiore, rubi flore, fructu polyſpermo umbilicato.* It grows naturally in Jamaica.

Claſs and Order in the Linnæan Syſtem. The characters. *Muntingia* is of the Claſs and Order *Polyandria Monogynia*; and the characters are,

1. CALYX is a monophyllous perianthium, having a concave baſe, and divided into five large, deciduous, ſpear-ſhaped, acuminated ſegments.
2. COROLLA is compoſed of five roundiſh, patent petals, inſerted in the calyx.
3. STAMINA are numerous, very ſhort, capillary filaments, with roundiſh antheræ.
4. PISTILLUM conſiſts of a globular, hairy germen, without any ſtyle, but a capitated, pentagonal, radiated, permanent ſtigma.
5. PERICARPIUM is a globular berry, umbilicated by the ſtigma, and containing five cells.
6. SEMINA. The ſeeds are numerous, roundiſh, ſmall, and nidulant.

CHAP. CLXII.

MUSA, The PLANTAIN TREE.

THERE are three diſtinct ſpecies of this genus, called,

Species.

1. Paradiſe *Muſa*, or Plantain Tree.
2. *Banana*, or Spotted *Muſa*.
3. *Bihai*.

Paradiſe Muſa, or Plantain Tree deſcribed.

1. Paradiſe *Muſa*, or Plantain Tree. The ſtalk is upright, five or ſix inches in diameter, grows to fourteen or ſixteen feet high, and yet is of ſo tender and ſoft a nature, that it may be cut down at one ſtroke with the knife. The leaves are of an oblong figure, more than two yards long, a foot and an half broad, have a ſtrong, broad midrib, and numerous veins running from it to the border. Among the leaves at the top of the plant ariſes a ſoft, fungous ſtalk, ſupporting the flowers in a nodding, or drooping poſture; they compoſe large cluſters, are of a whitiſh-yellow colour, and are ſucceeded by cluſters of delicious fruit, as large as Cucumbers, and of a yellow colour when ripe.

Properties of the plant.

The fruit of this ſpecies is in high eſteem in the hot parts of the world, and is ſerved in deſerts in the manner we uſe Melons. There are authors who have aſſerted this to be the forbidden apple which Adam eat of in Paradiſe; and others who have affirmed it to be the grapes brought to Moſes from the Promiſed Land. The cluſters of this fruit are often ſo large, as to weigh forty or fifty pounds.

Banana, or ſpotted Muſa deſcribed.

2. *Banana*, or Spotted *Muſa*. The ſtalk is upright, thick, tender, grows to twelve or fourteen feet high, and is ſpotted and beautifully ſtriped with purple. The leaves are near two yards long, and a foot and half broad. The flowers come out in bunches from the tops of the ſtalks; they are elevated on a thick, ſoft footſtalk, but hang drooping; and are ſucceeded by ſhort, oblong fruit, ſoft, and luſcious to the taſte.

Bahai deſcribed.

3. *Bahai*. The ſtalk of this plant is thick, ſoft, and tender, and grows to twenty feet high. The leaves are near three yards long, and three feet broad. From the center of the leaves ariſes an erect ſpadix ſupporting the flowers, which are of different colours in the different varieties of this ſpecies, and are ſucceeded by a large, eſculent fruit, like the former.

Culture.

All theſe plants are propagated by planting the ſuckers, taken from the roots, in any of the ſummer months, and planting them in pots filled with light, and very rich earth. They muſt be then plunged into the bark bed; and if the ſuckers were young, and had good fibres, they will ſoon ſhew good ſigns of growth. During the ſummer ſeaſon they muſt have conſtant ſupplies of water; for the leaves being large, and their growth quick, they will require pretty large quantities to be duly adminiſtered unto them; but in winters they muſt have water ſparingly, as at that ſeaſon it is apt to rot the roots. When they are grown to a conſiderable ſize, a tan ſtove, or part of ſuch a ſtove, ſhould be appropriated to theſe plants: They ſhould then be turned out of the pots, and planted in the tan bed, placing ſome old rotten tanner's bark for their roots to ſtrike into. They will from that time grow amazingly, the roots will ſpread all over the bed, and if they are kept warm in winters, and duly ſupplied with water in ſummer, they will flower, and the fruit ripen; but it by no means anſwers the encomiums beſtowed on it by foreigners, or ſuch as have reſided in the Weſt Indies. If the fruit is gathered before it is ripe, and roaſted in the embers, it becomes a hearty food, and is uſed by the Indians inſtead of bread.

Titles.

1. The firſt ſpecies is titled, *Muſa ſpadice nutante, floribus maſculis perſiſtentibus.* In the *Hort. Cliff.* it is termed, *Muſa racemo ſimpliciſſimo*; and in the *Hort. Malab. Bata.* Cluſius calls it, *Muſa*; and Caſpar Bauhine, *Ficus Indica, fructu racemoſo, folio oblongo*; alſo, *Palma humilis, longis latiſque foliis.* It grows naturally in India. Paradisi-aca

2. The ſecond ſpecies is titled, *Muſa ſpadice nutante, floribus maſculis deciduis.* In Miller's Dictionary it is termed, *Muſa ſpadice nutante, fructu breviore obtuſo angulato.* Brown calls it, *Muſa ſpadice nutante, fructu breviore oblongo*; Sloane, *Muſa caudice maculato, fructu recto rotundo breviore odorato*; Caſpar Bauhine, *Muſæ affinis altera*; and Plukenet, *Ficus Indica racemoſa, foliis venuſtè venoſis, fructu minore.* It grows naturally in both the Indies. Sapien-tum.

3. The third ſpecies is titled, *Muſa ſpadice erecto, ſpathis perſiſtentibus.* Brown calls it, *Muſa ſpadice erecto, ſpathis rigidis amplexantibus diſtichè & alternatim ſitis*; Rumphius, *Folium menſarium*; and Plumier, *Bihai ampliſſimis foliis, florum vaſculis variegatis*; alſo, *Bihai ampliſſimis foliis, florum vaſculis coccineis*; alſo, *Bihai ampliſſimis foliis, florum vaſculis ſubnigris.* It grows naturally in America. Bihai.

Claſs and Order in the Linnæan Syſtem. The characters.

Muſa is of the Claſs and Order *Polygamia Monoecia*; and the characters are,

I. The Hermaphrodite Females are ſituated at the lower part of the ſpadix.

1. Calyx is a large, oval, oblong, plane, concave ſpatha, containing many flowers.

2. Corolla is ringent, and unequal. The petal that conſtitutes the upper lip is erect, tongue-ſhaped, truncated, and indented in five parts at the top.

The nectarium conſtitutes the lower lip, and conſiſts of one ear-ſhaped, navicular, compreſſed, acuminated leaf, ſhorter than the petal.

3. Stamina are ſix awl-ſhaped filaments, of which five are ſituated within the petal, are erect, and about half the length of the petal; the ſixth filament is ſituated within the nectarium, is twice the length of the others, and on this is ſituated a linear, fruitful anthera; the others have none.

4. Pistillum conſiſts of a large, very long, triquetrous germen ſituated below the receptacle; a cylindrical, erect ſtyle the length of the petal; and a capitated, roundiſh ſtigma.

5. Pericarpium is a fleſhy, very long, bluntly three-cornered berry, divided into three parts, and covered with a thick rind.

6. Semina. . . . . . .

II. Hermaphrodite Males, in the ſame ſpadix above the Females.

1. Calyx is a ſpatha, as in the females.

2. Corolla. The petal is the ſame as in the females.

The nectarium is alſo ſimilar.

3. Stamina. The filaments are the ſame as the females; but all of them are equal, erect, and have linear antheræ.

4. Pistillum. The germen, ſtyle, and ſtigma are the ſame as in the females, but ſmaller, and obſolete.

5. Pericarpium becomes abortive.

6. Semen. . . . .

CHAP. CLXIII.

MYRTUS, MYRTLE.

BESIDES the numerous Myrtles that adorn our Green-houſes, there are other ſpecies of a more tender nature, which figure admirably in our Stoves; ſuch as,

Species.

1. *Pimento*, or All ſpice.
2. Dioiceous Myrtle.
3. White-berried Myrtle of Ceylon.
4. Round-leaved Myrtle of Ceylon.
5. Shining Oval-leaved Myrtle of Jamaica, or *Zuzygium*.
6. *Chytraculia* Myrtle.
7. Two-flowered Myrtle.
8. Braſilian Myrtle.

Pimento, or All-ſpice, deſcribed.

1. *Pimento*, or All-ſpice. This grows to be a large tree, ſending forth many branches, which are covered with a brown bark. The leaves greatly reſemble thoſe of the Bay Tree; their figure is oblong; they are veined, and grow alternately on the branches on ſhort footſtalks. The flowers are produced from the ends of the branches in looſe bunches; they appear in June, July, and Auguſt, and are ſucceeded by a globular fruit, which is called in England *Jamaica Pepper*. The whole tree is an admirable aromatick. The leaves bruiſed are finely ſcented, and even when dried retain that property many years. Many ſuppoſe the fruit to be poſſeſſed of the flavour of moſt other ſpices, which has gained it the appellation of *All-ſpice*. It is a conſiderable branch of the Jamaica trade; is gathered before it is ripe; and being expoſed to the ſun about twelve days, becomes dry and fit for uſe: It is then packed up to be ready for exportation.

Dioiceous Myrtle deſcribed.

2. Dioiceous Myrtle. This grows to be a large tree, like the former. The leaves are of an oblong figure, and are ſtrongly ſcented when bruiſed. They are of a thick conſiſtence, and grow oppoſite by pairs on the branches. The flowers are produced from the ſides and ends of the branches in looſe bunches; they are dioiceous, and very ſmall; they are of a greeniſh colour; appear in June, July, and Auguſt; and the females are ſucceeded by a ſmall, globular, ſpicy berry. The whole tree is a very ſtrong and fine aromatick.

White-berried

3. White-berried Myrtle of Ceylon. This plant hath a ſtrong, upright ſtem, covered with a ſmooth grey bark, which divides into many ſlender, ſtiff branches. The leaves are oval, of a ſhining-green colour, and grow oppoſite by pairs on very ſhort footſtalks. The flowers grow, many together from the ends of each branch, on one common footſtalk; they come out in winter, and much reſemble thoſe of the common Myrtle. In the countries where this tree naturally grows, the berries are of a ſnowy-white colour; but in our gardens it rarely, if ever, produces any fruit.

and Round-leaved Myrtle of Ceylon, deſcribed.

4. Round-leaved Myrtle of Ceylon. This tree is an exceeding fine aromatick. The leaves are rather of an oval figure, tho' they are almoſt round. The flowers are produced from the upper parts of the branches in looſe bunches. The footſtalk of each uſually divides into about three branches, each of which ſupports many flowers, which are ſmall, and ſucceeded by round berries.

Shining Oval-leaved Myrtle of Jamaica, or Zuzygium, deſcribed.

5. Shining Oval-leaved Myrtle of Jamaica, or *Zuzygium*. This is a ſhrub, which ſends forth many forked branches, that are covered with a white bark. The leaves are very bright, ſmooth, oval, acute, grow by pairs, and crown the tops of the branches. The flowers are produced from the diviſions of the branches on footſtalks placed oppoſite to each other; one common footſtalk ſupports many flowers, which falling are ſucceeded by roundiſh berries.

Chytraculia,

6. *Chytraculia* Myrtle. This ſhrub is not much unlike the former. The branches divide in the ſame manner. The leaves are ſmooth, oval, and grow by pairs. The footſtalks of the flowers divide in the like forked manner with the branches, are downy, and ſupport numerous flowers, which falling are ſucceeded by ſmall, roundiſh fruit.

Two-flowered,

7. Two-flowered Myrtle. The leaves of this ſhrub are ſpear-ſhaped, undivided, and grow oppoſite to each other. The footſtalks of the flowers come out from the wings of the branches in the alternate way; they grow ſingly; and each ſupports two flowers only.

and Braſilian Myrtle deſcribed.

8. Braſilian Myrtle. This is a branching ſhrub, covered with a white bark. The leaves are oval, broad, ſmooth, ſcentleſs, and grow oppoſite to each other on the branches. The flowers grow ſingly from the wings of the leaves on naked footſtalks; the petals appear fringed, or ciliated; their ſtamina are of a more than ordinary number; and they are ſucceeded by a very large, oval fruit.

Culture.

All theſe ſorts are propagated from ſeeds, which ſhould be procured from the places where the trees naturally grow. They ſhould be well preſerved in ſand; or if they be ſown in boxes on the ſpot, and ſent over undiſturbed in that manner, it will be ſo much the better. If we receive them in ſand-bags, as is very often the caſe, they ſhould, as ſoon as poſſible, be ſown in pots or boxes filled with freſh, light earth. Theſe ſhould be immediately ſet under cover, and be frequently watered. In the ſpring they ſhould be plunged up to the rims in a moderate hot-bed, and this will more effectually bring them up; for without this aſſiſtance they will lie two, and ſometimes three, nay, even four years, before they appear. When they are of ſize to tranſplant, each ſhould have its own ſeparate pot, which ought to be but ſmall at firſt; they ſhould be then well watered, plunged up to the rims in a ſecond hotbed, and ſhaded until they have taken root. From that time they ſhould be hardened by degrees to the open air; and about the end of July the glaſſes ſhould be taken off, letting the pots ſtill remain up to the rims in the bed. Mats, however, ſhould be drawn over them to ſhade them from the violence of the ſun, and alſo to protect them from cold nights and exceſſive rains; watering ſhould be afforded them as there ſhall be occaſion; and with this treatment they may ſtand until the middle or end of September, when they ſhould be removed into the moderate ſtove. Watering muſt be repeated at times all winter; dead leaves muſt be picked off; and every ſummer they may be ſet abroad from June to the middle or end of September, when, the cold dews coming on, they ſhould be removed again into the ſtove. From time to time they ſhould be ſhifted into larger pots, as they require; the fibres next the pots ſhould be trimmed off, and as much old mould as poſſible ſhould be taken away without diſturbing the roots. They ſhould be then ſet upright in pots not too large, filled with the like kind of light, rich earth; ſhould be immediately well watered, and plunged afreſh up to the rims in the bed. The beſt time for this work is April, though it may be done ſucceſsfully in the autumn, at ſuch time as they are taken from their ſituation abroad to be placed in the houſe.

The third ſpecies, and moſt of the ſhrubby or lower kinds, will grow by cuttings; but then they ſhould have the benefit of a good bark bed, ſhould be kept cloſe, conſtantly ſhaded, and well watered. May is the beſt time for planting them; and ſome chooſe to have a bit of the old wood with each cutting: If the cutting, however, be ſtrong, of the laſt year's wood, and well grown, it will be better without it.

As ſoon as you find your cuttings to be in a growing ſtate, you muſt begin to harden them to the open air, and when once this is effected, their treatment muſt be the ſame as that of the ſeedling plants.

They may alſo be propagated by layers; but this often proves a more tedious method than any other way; for they frequently will be two or three years before they ſtrike root, and ſome will not ſtrike root that way at all; ſo that where ſeeds cannot be obtained, which is the beſt way of all, recourſe muſt be had to the cuttings.

They are moſt of them fine aromaticks, and merit a place in every good collection; eſpecially the two firſt ſorts, which, by their fine bay-like leaves ſo beautifully adorning ſuch large growing trees, cauſe a delightful look; both in the ſtove in the winter, and alſo when they are ſet abroad in the open air in the ſummer.

Titles. Pimenta.

1. The *Pimento*, All-ſpice, or Jamaica Pepper Tree, is titled, *Myrtus foliis alternis.* In the *Hortus Cliff.* it is termed, *Myrtus calycibus abſque appendiculis.* Sloane calls it, *Myrtus arborea aromatica, foliis laurinis*; Plukenet, *Caryophyllus aromaticus Americanus, lauri acuminatis foliis, fructu orbiculari*; Brown, *Myrtus foliis oblongo-ovatis glabris alternis, racemis terminalibus & lateralibus*; alſo, *Caryophyllus foliis oblongo-ovatis alternis, racemis terminalibus & lateralibus.* It grows naturally in India.

Dioica

2. Dioiceous Myrtle is titled, *Myrtus pedunculis trichotomo-paniculatis, foliis oblongis, floribus dioicis.* It grows naturally in America.

Zeyla=
=nica.

3. White-berried Myrtle of Ceylon is titled, *Myrtus pedunculis multifloris, foliis ovatis ſubpetiolatis.* In *Fl. Zeyl.* it is termed, *Myrtus foliis ovatis acuminatis obtuſiuſculis*; and in the *Hort. Cliff. Myrtoides foliis ovatis.* Herman calls it, *Myrtus Zeylanica odoratiſſima, baccis niveis monococcis.* It grows naturally in Ceylon.

Caryo=
phylla=
=ta.

4. Round-leaved Myrtle of Ceylon is titled, *Myrtus pedunculis trifido-multifloris, foliis obovatis.* Plukenet calls it, *Caryophyllus aromaticus Ind. Occid. foliis & fructu rotundis.* It is a native of Ceylon.

5. *Zuzygium* is titled, *Myrtus pedunculis multifloris foliis geminis ſubovatis terminalibus, ramis dichotomis.* Brown calls it, *Zuzygium fruticoſum, foliis ovatis nitidis & ramulis ubique jugatis.* It is a native of Jamaica.

Chytra=
=culia.

6. *Chytraculia* Myrtle is titled, *Myrtus pedunculis dichotomis paniculatis tomentoſis, foliis geminis ſubovatis terminalibus.* Brown calls it, *Chytraculia arborea, foliis ovatis glabris oppoſitis, racemis terminalibus.* It grows naturally in Jamaica.

Biflo=
=ra.

7. Two-flowered Myrtle is titled, *Myrtus pedunculis bifloris, foliis lanceolatis.* Brown calls it, *Caryophyllus fruticoſus, foliis lanceolatis oppoſitis, floribus geminatis alaribus.* It grows naturally in Jamaica.

Brasili=
=âna

8. Braſilian Myrtle is titled, *Myrtus floribus ſolitariis, pedunculis nudis, petalis ſubciliatis.* Plumier calls it, *Myrtus pomifera latiſſimis foliis*; Brown, *Philadelphus arboreſcens, foliis myrtinis nitidis oppoſitis, ramulis gracilibus, pedunculis bipartitis alaribus*; Sloane, *Myrti folio arbor, cortice argenteo, foliis oblongis ad baſin latioribus inodoris*; and Commeline, *Arbor Braſiliana, myrti laureæ foliis inodoris.* It grows naturally in the Braſils.

C H A P. CLXIV.

NERIUM, The OLEANDER, or ROSE-BAY.

Species.

OF this genus are,

1. Divaricated *Nerium.*
2. Ceylon *Nerium.*

Divaricated

1. Divaricated *Nerium.* The ſtalk is ligneous, divides into many branches, which ſpread themſelves every way; and the plant grows to the height of three or four feet. The leaves are ſpear-ſhaped, oval, and undivided. The flowers are produced in cluſters from the ends and ſides of the branches; they are of a ſnow-white colour, and very beautiful; they appear in July and Auguſt, and the ſeeds ripen in the autumn.

and Ceylon Nerium deſcribed.

2. Ceylon *Nerium.* The ſtem is woody, grows to twelve or fourteen feet high, and ſends forth many erect, ſtraight branches from the ſides. The leaves are ſpear-ſhaped, and grow oppoſite by pairs on the branches. The flowers are produced in cluſters from the upper parts of the ſtalks, are of a red colour, and are ſometimes ſucceeded by pods; but the ſeeds rarely ripen in England.

The

Culture.

The firſt ſort is beſt propagated by ſeeds, which ſhould be ſown on a hotbed in the ſpring. When the plants are three inches high, they muſt be planted ſeparately in pots, be plunged into a hotbed of tanner's bark, be watered and kept ſhaded until they have taken root; but afterwards muſt have more air, according to the warmth of the ſeaſon. In autumn they muſt be taken into the bark ſtove, where they muſt be kept warm all winter, and the ſummer following they will flower, and the ſeeds frequently ripen; ſoon after which the plants for the moſt part decay.

The ſecond ſort is raiſed by ſeeds in the ſame manner, when they can be obtained good; but as they rarely ripen in England, the moſt general method of its culture here is by laying down the young ſhoots in the autumn or ſpring. If theſe are duly ſupplied with water, they will ſtrike root, and may then be taken off, potted ſeparately, and plunged into the ſtove, where they ſhould conſtantly remain under the care and diſcipline due to tender plants.

They are alſo propagated by cuttings. Theſe ſhould be ſet in pots filled with light, rich earth, and plunged into a hotbed of tanner's bark; they muſt be watered and ſhaded at firſt; but when the plants have commenced a good growing ſtate, they muſt have plenty of air, and in the autumn be taken into the ſtove, and managed as the others.

Titles.

1. The firſt ſpecies is titled, *Nerium foliis lanceolato-ovatis, ramis divaricatis.* Herman calls it, *Apocynum Zeylanicum Indicum fruteſcens, nerii flore candidiſſimo.* It grows naturally in India.

Divarica-
-tum.

2. The ſecond ſpecies is titled, *Nerium foliis lanceolatis oppoſitis, ramis rectis.* Burman calls it, *Apocynum arboreſcens, nerii flore, minus.* It grows naturally in India.

Zeylonicum.

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CHAP. CLXIV.

NYCTANTHES, ARABIAN JESSAMINE.

THERE are five diſtinct ſpecies of this genus in the ſtove, viz.

Species.

1. Arabian Jeſſamine.
2. Indian Jeſſamine.
3. The Sorrowful Tree.
4. Hairy *Nyctanthes.*
5. Narrow-leaved *Nyctanthes.*

Arabian

1. Arabian Jeſſamine. The ſtem is weak and woody, and ſends out many weak, ſtraggling branches from the ſides. The lower leaves are heart-ſhaped and obtuſe, but the upper ones are oval and entire; they are all placed oppoſite by pairs, are ſmooth, and their colour is an elegant pale-green. The flowers come out from the ſides of the branches, near the upper parts; they are of a pure white colour, and finely ſcented, eſpecially in the evenings, and ſhew themſelves great part of the year.

and Indian Jeſſamine deſcribed.

2. Indian Jeſſamine. The ſtem is woody, firm, branching, and grows to eight or ten feet high. The leaves are oval, ſpear-ſhaped, ſmooth, of a gloſſy green colour, waved on their edges, and grow oppoſite by pairs. The flowers come out in ſmall cluſters from the wings of the leaves, almoſt the whole length of the branches; they are large, of a ſnow-white colour, and finely ſcented.

Sorrowful Tree deſcribed.

3. The Sorrowful Tree. The ſtem is woody, ſquare, branching, and grows to twelve or fourteen feet high. The leaves are oval, acute-pointed, and grow oppoſite by pairs. The flowers come out in cluſters from the wings of the leaves, are of a white colour, and have a moſt exhilarating odour; they appear in the night, wither in the morning, and the mournful appearance they carry all day gained this ſpecies the appellation of The Sorrowful Tree.

Hairy

4. Hairy *Nyctanthes.* The ſtem is woody, divides into many branches, and grows to be twelve or fifteen feet high. The leaves are oval, ſmooth, of a ſhining green colour, and come out without order on hairy footſtalks. The flowers are produced in cluſters from the wings of the leaves, growing on hairy footſtalks, are of a pure white colour, and of excellent odour; they appear in evenings like the former ſort, and fade at the approach of the morning.

and Narrow-leaved Nyctanthes deſcribed.

5. Narrow-leaved *Nyctanthes.* The ſtem is woody, branching, and grows to twelve or fourteen feet high. Some of the leaves are oval and obtuſe, others are ſpear-ſhaped and narrow. The flowers are produced in cluſters from the wings of the leaves, are of a white colour, and have a delicious odour.

Culture.

All theſe ſorts are propagated by layers. This operation muſt be performed on the young ſhoots; and the time for the work is the autumn, winter, or ſpring. If they are ſupplied with water as often as the mould becomes dry, they will take root, and afterwards may be taken up, and planted ſeparately in pots, and then plunged into the bark-bed in the ſtove.

They are alſo raiſed by cuttings. Theſe muſt be planted, many together, in large pots, and plunged into a hotbed of tanner's bark; and if they are watered and kept ſhaded, they will ſoon ſtrike root: After they have commenced a good growing ſtate, they ſhould be potted ſeparately, and managed like the layers.

The firſt two ſorts are generally propagated by grafting them on ſtocks of the common White Jeſſamine; and in that ſtate we receive them from Italy, where they are raiſed for ſale, and exported to different parts of the world. Whoever purchaſes any of the Italian raiſed plants, muſt firſt clean the roots from all filth, cut off the broken and bruiſed parts, and ſoak them in water all night, and in the morning plant them in pots, and plunge them into the bark-bed in the ſtove. Their after-management will be to ſhorten the ſhoots as they become too luxuriant, and rub off all ſuch as may ariſe under the graft on their firſt appearance, which would otherwiſe ſoon rob the graft of its nouriſhment and beauty.

Theſe ſorts may be ſet abroad, with the greenhouſe plants, during the warmeſt part of the ſummer; but in September muſt be again taken into the ſtove for their winter lodgings, where a ſmall ſhare of artificial heat will be ſufficient for them.

Titles. Sambac. 1. The firſt ſpecies is titled, *Nyctanthes foliis inferioribus cordatis obtuſis, ſuperioribus ovatis acutis.* In the *Hort. Cliff* it is termed, *Nyctanthes caule volubili, foliis ſubovatis acutis.* Caſpar Bauhine calls it, *Syringa Arabica, foliis mali aurantii*; Burman, *Jaſminum limonii folio conjugato*; Tilli, *Jaſminum, ſive Sambac Arabum, folio acuminato*; Cluſius, *Jaſminum Arabicum*; and Rumphius, *Flos Manoræ.* It grows naturally in India.

Undulata. 2. The ſecond ſpecies is titled, *Nyctanthes foliis ovatis acuminatis undulatis, ramis teretibus*: In the *Hortus Malabricus* it is termed, *Tſieregám Mulla.* Ray calls it, *Jaſminum Indicum, flore polypetalo exalbido, fructu minori.* It grows naturally in Malabar.

Arbor Tristis. 3. The third ſpecies is titled, *Nyctanthes caule tetragono, foliis ovatis acuminatis, pericarpiis membranaceis compreſſis.* In the *Hortus Malabricus* it is termed, *Manja-pumeran.* Caſpar Bauhine calls it, *Arbor triſtis myrto ſimilis.* It grows naturally in India.

Hirsuta. 4. The fourth ſpecies is titled, *Nyctanthes petiolis pedunculiſque villoſis.* In the *Hortus Malabricus* it is termed, *Rava-pon.* It grows naturally in India.

Angusti=folia. 5. The fifth ſpecies is titled, *Nyctanthes foliis obtuſis lanceolatis ovatiſque.* In the *Hortus Malabricus* it is termed, *Katu-pitſiegam Mulla.* Tournefort calls it, *Jaſminum Indicum anguſtifolium, fructu gemino.* It grows naturally in the ſandy parts of Malabar.

Claſs and Order in the Linnæan Syſtem. The characters. *Nyctanthes* is of the Claſs and Order *Diandria Monogynia*; and the characters are,

1. Calyx is a ſmall, monophyllous, cylindrical, permanent perianthium, cut into eight awl-ſhaped ſegments.

2. Corolla is one hypocrateriforme petal. The tube is cylindrical, and longer than the calyx. The limb is plane, and divided into eight oblong, patent ſegments.

3. Stamina are two ſmall, awl-ſhaped filaments, inſerted in the receptacle, having erect, acute antheræ.

4. Pistillum conſiſts of a roundiſh, depreſſed germen, a ſimple ſtyle the length of the tube, and two erect ſtigmas.

5. Pericarpium is a roundiſh, didymous berry, containing two cells.

6. Semina. The ſeeds are ſingle, roundiſh, and large.

C H A P. CLXV.

OCYMUM, BASIL.

Species. Plant deſcribed. WE have reſerved one ſpecies of this genus for this place, called, The Shrub Braſil. This plant hath ſeveral woody, ſingle, four-cornered ſtalks, that grow to about a yard high. The leaves are ſpear-ſhaped, oval, ſerrated, and grow on ſhort footſtalks. The flowers terminate the ſtalks in ſpikes, having caduous bracteæ; their colour is white, and the whole plant is finely ſcented.

Culture. Sow the ſeeds of this plant on a moderate hotbed in the ſpring, and when the plants are fit to remove, let them have the advantage of a ſecond hotbed; here let them remain until the heat is abated, and then let each be ſet in a ſeparate pot, and the pots be plunged up to the rims in a third hotbed; through all which courſes let them have frequent waterings, be ſhaded in hot weather, and have as much free air as poſſible. About July take the glaſſes wholly off, let the plants have the benefit of the full air, give them plenty of water, as the nature of the ſeaſon requires, and in the autumn remove them into the ſtove to be preſerved through the winter. This plant will live in a common green-houſe; but by this method it will perfect its ſeeds, and be in the utmoſt perfection. The ſummer following ſet them abroad with other tender plants in a well-ſheltered ſituation, and in the autumn remove them into the ſtove as before.

Titles. Frutes=cens. This ſpecies is titled, *Ocymum racemis terminalibus: bracteis caducis, foliis lanceolato-ovatis, caule ſuffruticoſo.* Burman calls it, *Ocymum Zeylanicum perenne odoratiſſimum latifolium.* It grows naturally in Aſia.

C H A P. CLXVI.

OVIEDA.

THERE are two ſpecies of this genus in the Stove, viz.

Species.
1. Prickly *Ovieda.*
2. Smooth *Ovieda.*

Prickly, 1. Prickly *Ovieda.* The ſtalk is woody, thick, and branching. The leaves are oval, oblong, indented, prickly, and grow oppoſite on ſhort footſtalks. The flowers are produced in roundiſh bunches from the tops of the ſtalks, and are followed by globular berries, which are of a blue colour when ripe.

and Smooth Ovieda deſcribed. 2. Smooth *Ovieda.* The ſtalk is woody, branching, and grows to three or four feet high. The leaves are ſpear-ſhaped, ſmooth, bend backward, and grow oppoſite to each other on footſtalks. The flowers are produced in forked bunches at the extremities of the ſhoots, and are ſucceeded by round berries, containing the ſeeds.

Culture. Theſe ſpecies are propagated by ſowing the ſeeds on a hotbed in the ſpring. When the plants are fit to remove, they muſt be potted ſeparately, and plunged into a hotbed of tanner's bark, where they muſt remain with the uſual care of ſuch ſeedlings until the autumn, and muſt then be taken into the bark-ſtove, and managed like other tender plants.

Titles.

Spinosa

1. The firſt ſpecies is titled, *Ovieda foliis ovalibus dentatis.* Plumier calls it, *Valdia cardui folio, fructu ſubcæruleo.* It grows naturally in America.

Mitis.

2. The ſecond ſpecies is titled, *Ovieda foliis lanceolatis ſubrepandis.* It is a native of Java.

Claſs and Order in the Linnean Syſtem.

Ovieda is of the Claſs and Order *Didynamia Angioſpermia*; and the characters are,

The characters.

1. Calyx is a ſhort, broad, monophyllous, bell-ſhaped, permanent perianthium, cut at the brim into five erect, acute ſegments.
2. Corolla is one ringent petal. The tube is narrow, and by far the longeſt of all. The limb is ſhort, trilobed, and nearly equal.
3. Stamina are four filaments longer than the corolla, having roundiſh antheræ.
4. Pistillum conſiſts of a globular germen, a filiforme ſtyle the length of the ſtamina, and a bifid, acute ſtigma.
5. Pericarpium is a globular berry, fixed in the large, bell-ſhaped, upright, permanent calyx.
6. Semina. The ſeeds are two, and oval.

CHAP. CLXVII.

OXALIS, OXYS, WOOD SORREL.

Species.

FROM the warmer parts of the world comes, The Shrubby *Oxys*, or Wood Sorrel Tree.

The plant deſcribed.

The ſtalks are upright, ligneous, branching, and grow to a foot and a half, or two feet high. The leaves are trifoliate, grow oppoſite by pairs, and ſometimes by threes, on ſhort footſtalks; the folioles are of an oval figure; the middle one is much larger than the others, and is elevated on a diſtinct footſtalk. The flowers come out in ſmall bunches from the wings of the ſtalk; the general footſtalk is about two inches long, and the footſtalk of each flower is ſhort and crooked, ſo that their poſition is drooping; the petals are ſhort, of a yellow colour, and ſucceeded by five-cornered capſules, containing the ſeeds.

Culture.

This ſpecies is beſt propagated by ſowing the ſeeds in pots filled with freſh, light earth; they muſt be then plunged into a good hotbed; and, when the plants are fit to remove, each muſt be ſet in a ſeparate pot, be plunged into a freſh hotbed, and watered and kept conſtantly ſhaded until they have taken root: Afterwards they muſt have more air; but their poſition may be ſtill in the hotbed, allowing them proper water and air, as the ſeaſon makes it neceſſary, until the end of ſummer, when they ſhould be removed into the temperate ſtove, and have ſimilar treatment with other plants of the like nature.

Titles.

Frutescens

This ſpecies is titled, *Oxalis caule fruticoſo erecto, pedunculis umbelliferis, foliis ternatis ovatis; intermedio petiolato.* In Miller's Dictionary it is termed, *Oxalis caule erecto fruticoſo, foliis ternatis impari maximo.* Plumier calls it, *Oxys lutea fruteſcens, trifolii bituminoſi facie.* It grows naturally in La Vera Cruz, and ſome of the French colonies in America.

CHAP. CLXVIII.

PANCRATIUM, SEA DAFFODIL.

AMongſt the Perennials are mentioned ſome hardy ſpecies of the *Pancratium*; thoſe for the Stove are,

Species.

1. Ceylon *Pancratium.*
2. Mexican *Pancratium.*
3. Caribbæan *Pancratium.*
4. Carolina *Pancratium.*
5. Broad-leaved *Pancratium.*
6. Sweet-ſcented Broad-leaved *Pancratium.*

Ceylon,

1. Ceylon *Pancratium.* The root is a large, oval bulb, covered with a pale-brown bark. The leaves are long and narrow, of a light-green colour, grow to about a foot in height, and pretty much reſemble thoſe of the Common *Narciſſus.* The flower-ſtalk riſes from among them: It is naked, round, thick, and juicy, and will grow to rather more than a foot high. At the top of it is the ſpatha, from which iſſues a ſingle flower: This is large, and of a ſnowy-white colour; the petals are reflexed, or turned backwards; the nectarium is large and ſpreading, and is cut at the brim into about twelve acute ſegments; the ſtamina riſe from the edge of the nectarium between the ſegments, are long, and turn towards each other. This is the natural ſtructure of the flower, which is of admirable fragrance and beauty, though of ſhort duration; it ſeldom continuing above three or four days before it fades.

Mexican,

2. Mexican *Pancratium* hath a large, brown bulb. The leaves will grow to about a foot in length, are broad, and have three longitudinal furrows. The ſtalk will grow to about a foot in height, at the top of which is the ſpatha. From this iſſue two flowers only, which grow from the top of the main ſtem, on their own ſeparate footſtalks. The flowers are white, and very beautiful; but nature has denied them fragrance, which occaſions this ſpecies to be leſs valued than ſome of the others.

and Caribbæan Pancratium deſcribed.

3. Caribbæan *Pancratium* is a very large growing ſpecies, and is poſſeſſed of many admirable properties and beauties. The root is an exceed-

ing large bulb, a pound or more in weight, and is covered with a reddiſh brown bark. The leaves will grow to about two feet in length, are ſpear ſhaped, very broad, pointed, and have ſeveral longitudinal ribs: Their colour is a lively green. Among the leaves ariſes the flower-ſtalk: It is naked, upright, thick, and firm, but rather flat; it will grow to between two and three feet in height, and is of a pale-green colour. At the top of this is the ſpatha; and this burſting, diſcloſes the flowers. Many of theſe grow together from the top of the main ſtem, and all are placed on their own ſeparate footſtalks: They are very large, and their colour is a pure white. The general characters of the *Pancratium* indicate their ſtructure; they are of much longer duration than the preceding ſorts, and poſſeſſed of perhaps the moſt agreeable, ſweet ſcent the noſe can be regaled with: Its fragrance is in the moſt heightened ſtate, without the faintneſs attending many of our ſweet-ſmelling flowers.

Carolina, 4. Carolina *Pancratium* is of much ſmaller growth than the former. The root is a roundiſh bulb, covered with a light-brown bark. From this iſſue ſeveral leaves, which are very narrow, will grow to about a foot in length, and are of a dark-green colour. Among theſe riſes the flower-ſtalk, which is thick and ſhort, ſeldom riſing more than about nine inches in height. This ſupports the flowers, whoſe number is uſually about ſix or ſeven, and which are very beautiful: Their colour is white, the petals are very narrow, the nectarium is very large, and the brim is deeply cut into ſeveral ſegments; the ſtamina are about the length of the nectarium; and their antheræ being yellow, have a pretty effect in their ſnow-white flowers.

Broad-leaved, 5. Broad-leaved *Pancratium.* This ſpecies has great elegance and ſingularity, and demands our attention in the ſtove. The root is a white, oval bulb, from the baſe of which ſtrike a few fleſhy, thick fibres. From the bulb a few leaves ariſe, ſeldom more than two or three in number: They have long footſtalks, which are of a purpliſh colour, and the leaves themſelves are of a pale green; they are very broad, their figure is oval, and they terminate in a point; they have ſeveral longitudinal ribs, which are often tinged with purple; the borders of the leaf naturally turn inward, and the whole has a very ſingular and ſtriking look. Among the leaves ariſes the ſtalk, which will grow to near two feet in height: It is round, naked, thick, and juicy; is of a pale-green colour upwards, but purpliſh near the ground; and from the top of it grow the flowers. Each flower has its own ſeparate footſtalk, and the number is uſually from ſix to a dozen: They are large, and of a pure white colour. The general characters of the flowers indicate their ſtructure, though the ſtamina are very ſhort. Nature, who has enriched ſeveral of the other ſorts with fragrance, has denied it to this; in other reſpects, it is inferior to none of them.

and Sweet-ſcented Broad-leaved Pancratium deſcribed. 6. Sweet-ſcented Broad-leaved *Pancratium* is very much like the former. The leaves are oval, large, and have footſtalks. The ſpatha diſcloſes many flowers, which form a fine head; they reſemble thoſe of the preceding ſort, but are much ſmaller, and poſſeſſed of a high degree of fragrance, which the other wants.

Theſe, together with the two hardy ſorts mentioned among the Perennials, are all the known ſpecies of this genus; though ſome of them admit of a few varieties, which ſome authors have miſtaken for diſtinct ſpecies.

Culture. The propagation of all theſe ſorts is very eaſy. They multiply themſelves very faſt by offsets, and the bulbs are often ſent us from abroad. In either caſe, plant them in pots filled with rich, light, ſandy earth; then plunge them into a hotbed, or the bark-bed in the ſtove: The bulbs will ſoon ſtrike fibres downwards, and leaves upwards; the flower-ſtalks will alſo riſe, and ſhew their bloom ſoon after: The offsets alſo will increaſe very faſt in bulk in the bark-bed, and in no very great time will be brought to flower. In this ſituation, ſtrong roots will flower two or three times a-year, and are a very great ornament to the ſtove in the winter ſeaſon, when they frequently ſhew their bloom; but if a perſon has got a good collection of theſe plants, he may expect to have one or other of them in blow at all times of the year.

Titles. 1. The Ceylon *Pancratium* is titled, *Pancratium ſpathâ uniflorâ, petalis reflexis.* Herman and Commeline agree in calling it, *Narciſſus Zeylanicus, flore albo hexagono odorato*; and Rumphius, *Lilium Indicum.* It grows naturally in India. Zeylanicum.

2. Mexican *Pancratium* is titled, *Pancratium ſpathâ biflorâ.* This Dillenius terms, *Pancratium Mexicanum, flore gemello candido.* It is a native of Mexico. Mexicanum.

3. Caribbæan *Pancratium* is titled, *Pancratium ſpathâ multiflorâ, foliis lanceolatis.* Commeline calls it, *Narciſſus Americanus, flore multiplici albo hexagono odorato.* It grows naturally in the Weſt Indies. Caribæum.

4. Carolina *Pancratium* is titled, *Pancratium ſpathâ multiflorâ, foliis linearibus ſtaminibus nectarii longitudine.* Cateſby calls it, *Lilio-narciſſus polyanthos, flore albo.* It grows naturally in Jamaica and Carolina. Carolinianum.

5. Broad-leaved *Pancratium* is titled, *Pancratium ſpathâ multiflorâ, foliis ovatis nervoſis petiolatis.* Commeline calls it, *Narciſſus Amboinenſis, folio latiſſimo ſubrotundo.* It grows naturally at Amboyna. Amboinense. a

6. Sweet-ſcented Broad-leaved *Pancratium* is titled, *Pancratium foliis ovatis acuminatis petiolatis, ſpathâ multiflorâ, floribus minoribus candidis fragrantibus.* This is the *Cepa Sylveſtris* of Rumphius. It grows naturally in Amboyna. D°. B

CHAP.

CHAP. CLXIX.

PARKINSONIA.

THERE is only one ſpecies of this genus yet known, called, *Parkinſonia*.

The plant deſcribed. The ſtem is woody, ſends out many branches which are armed with thorns, and the tree grows to be twenty feet high. The leaves are compoſed of numerous ſmall pinnæ annexed to the midrib; and with good management they continue on the plants all winter. The flowers come out from the ends and ſides of the branches in long, ſlender, pendulent bunches; they are of a yellow colour, of extreme beauty, and of a moſt excellent odour; which occaſions this tree to be planted in the Weſt Indies, for ornament and the fragrance of its flowers, near their habitations and places of reſort.

Culture. It is propagated by ſowing the ſeeds on a hot-bed, in the ſpring; and if the ſeeds are good they will ſoon come up, when the plants ſhould be frequently ſprinkled with water, and have as much air as the weather will permit, to prevent their being drawn up too weak. When they are about three inches high, they muſt be ſet ſeparately in pots filled with light earth, and plunged into a hotbed of tanner's bark. Here they muſt be watered and kept ſhaded until they have taken root, when much air ſhould be admitted to them, eſpecially in hot weather, and frequent waterings. When the roots have filled the pots they muſt be ſhifted into larger ones, and plunged into a hotbed, where they muſt be managed as before, until they have commenced a good growing ſtate, when they ſhould be hardened by degrees to bear the open air; but the pots ſhould not be taken out of the bark bed. Here they may remain with frequent waterings in dry weather until September, when they ſhould be taken into a dry ſtove, or where a ſmall degree of artificial heat only can be afforded; it being found, by repeated experiments, that they retain their beauty all winter, and ſucceed better in ſuch a ſituation than with a greater degree of heat.

Titles. Aculeata. There being no other ſpecies of this genus, it is named ſimply, *Parkinſonia*. Plumier calls it, *Parkinſonia aculeata; foliis minutis unicoſtæ adnexis*; and Walther, *Parkinſonia aculeata, foliis mimoſæ unicoſtæ affixis*. It grows naturally in moſt of the warm parts of America.

Claſs and Order in the Linnæan Syſtem. *Parkinſonia* is of the Claſs and Order *Decandria Monogynia*; and the characters are,

The characters.

1. Calyx is a perianthium compoſed of five oval, acute, coloured, patent, deciduous leaves.
2. Corolla conſiſts of five nearly equal, ſpreading petals, of which four are oval, the other roundiſh.
3. Stamina are ten declining filaments, with oblong, incumbent antheræ.
4. Pistillum conſiſts of a long, taper, declining germen, a filiforme, aſſurgent ſtyle the length of the ſtamina, and an obtuſe ſtigma.
5. Pericarpium is a long, acuminated, taper, moniliforme pod.
6. Semina. The ſeeds are many, but placed in the articulations, oblong, nearly taper, and obtuſe.

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CHAP. CLXX.

PASSIFLORA, PASSION FLOWER.

THE Paſſion Flowers are arranged under four heads, viz. thoſe with undivided leaves, thoſe with bilobated leaves, thoſe with trilobated leaves, and thoſe with multifid leaves. From theſe we have occaſionally ſelected a few ſpecies for ſome hardier purpoſes: The more tender ſpecies of this genus, and ſuch as require a ſtove, are,

Species.

1. Undivided Serrated-leaved Paſſion Flower from Surinam.
2. Braſilian Pale-coloured Paſſion Flower.
3. Oval-leaved Paſſion Flower from the Bahama Iſlands.
4. Lime-leaved Paſſion Flower.
5. Broad-leaved Indian Paſſion Flower.
6. Quadrangular Paſſion Flower.
7. Laurel-leaved Paſſion Flower.
8. *Polyanthos* Paſſion Flower.
9. Perfoliate Paſſion Flower.
10. Red Paſſion Flower.
11. Normal Paſſion Flower.
12. *Muruſcuja*, or Scarlet Paſſion Flower.
13. White Paſſion Flower, or the Bat Paſſion Flower.
14. Two-horned-leaved Paſſion Flower.
15. Trilobate Round-leaved Paſſion Flower.
16. Trilobate Punctated-leaved Paſſion Flower.
17. Cork-barked Paſſion Flower.
18. Silky Halberd-leaved Paſſion Flower.
19. Hairy Trilobate Paſſion Flower.
20. Leaſt Paſſion Flower.
21. Digitated Paſſion Flower.
22. Pedated Paſſion Flower.

Undivided Serrated-leaved 1. Undivided Serrated-leaved Paſſion Flower from Surinam. The ſtalks are ſlender, angular, and ſend forth claſpers from the joints, which lay hold on every thing that is near them. The leaves are undivided, oval, ſpear-ſhaped, oblong, and their edges are ſlightly ſerrated. The flowers come out from the joints cloſe to the leaves; they are of a greeniſh-red colour; and though each individual flower is but of ſhort duration, yet there will often be a ſucceſſion of bloom from the ſame plant upwards of two months. The fruit is moderately large, and nearly oval.

and Braſilian Pale coloured Paſſion Flower deſcribed. 2. Braſilian Pale-coloured Paſſion Flower. This is another delicate plant of the climbing breed. The leaves are undivided, oval, entire, and grow from the joints on glandulous footſtalks. The flowers are of a very pale colour, of ſhort duration, and are ſucceeded by ſmall, longiſh fruit.

Oval-leaved, 3. Oval-leaved Paſſion Flower from the Bahama Iſlands. The ſtalks of this plant are three-cornered, ſlender, and will riſe, if ſupported, to about fourteen feet high. The leaves are undivided, oblong, oval, trinervous, entire, of a pale-green colour, and grow from the joints on ſhort, ſlender footſtalks. The flowers grow from the wings of the ſtalks upon ſhort, ſlender footſtalks; they are of a bright-copper colour; though there is a variety of it with purpliſh flowers; the ſucceſſion of bloom continues a long time, and they are ſucceeded in order, by a ſmall, oval, pulpy fruit.

Lime-leaved, 4. Lime-leaved Paſſion Flower. The ſtalks of this plant are thick, angular, and will riſe, by the aſſiſtance of their claſpers, to a conſiderable height. The leaves are undivided, heart-ſhaped, entire, and grow ſingly from the joints on footſtalks, that have no glands. The flowers are produced from the wings of the ſtalks on long footſtalks; their colour is red, and they are ſucceeded by a round, variegated, ſweet-taſted fruit, containing the ſeeds. The petals are white, and the fruit that ſucceeds them is about the ſize of an Apple.

Broad-leaved Indian, 5. Broad-leaved Indian Paſſion Flower. The ſtalks of this plant are thick, triangular, and will riſe by their claſpers to near twenty feet high. The leaves are undivided, broad, heart ſhaped, oblong, and grow ſingly from the joints on ſhort, eared footſtalks. The leaves of the calyx are of a red, or ſtriped colour; the petals are of a white, and the ſtuds of a purple colour; they grow ſingly from the joints, and are ſucceeded by a large, yellow fruit, in ſhape and ſize like a common Apple.

Quadrangular, 6. Quadrangular Paſſion Flower. The ſtalks of this plant are four-cornered, and membranaceous, or winged. The leaves are undivided, broad, nearly heart-ſhaped, entire, and grow on footſtalks which have ſix glands. The flowers are produced from the wings on ſhort, ſtrong footſtalks; they are of a purple, or blue colour, and are ſucceeded by an oval, pulpy fruit, containing the ſeeds.

Laurel-leaved, 7. Laurel-leaved Paſſion Flower. The ſtalks of this plant are pretty thick, tough, rough, and covered with a greyiſh bark. It ſends forth tendrils from the joints, by which it will ſhew its head from the tops of trees twenty or thirty feet high. The leaves are undivided, oblong, ſmooth, of a bright-green colour on their upper ſurface, but paler underneath, and for the moſt part grow ſingly from the joints. With theſe riſe the flower-ſtalks; they are rather ſhort, but the flower is large, and of matchleſs beauty. The involucrum is compoſed of three, large, indented, oval, hollowed, green leaves of a thin conſiſtence. The leaves of the calyx are large, oblong, pointed, of a pale-green colour without, but white within. The petals of the flowers are of a ſnowy-white colour, and are uſually marked with red, blue, and yellow ſtripes, or ſpots. The column is of a yellow, the rays of a violet, and the ſtyles of a fine purple colour. Each flower is of ſhort duration, but the ſucceſſion of the bloom will continue for upwards of two months. The flowers are finely ſcented, and are ſucceeded by a large, oval, yellow, pulpy fruit, of a very cooling property, an agreeable flavour, and is very ſerviceable for abating the heat of fevers, creating an appetite, quenching thirſt, &c. In the Weſt Indies it is uſually called Water Lemon.

Polyanthos, 8. *Polyanthos* Paſſion Flower. The ſtalks of this plant are very weak and ſlender, nevertheleſs they will grow to upwards of twenty feet long. The claſpers come out from the joints, by which they are enabled to ſhew their heads at the tops of trees of a conſiderable height; and from the ſame place the leaves are produced on ſhort, ſlender footſtalks: They are undivided, oblong, ſmooth, entire, and of a fine-green colour. The flowers grow in cluſters from the wings of the leaves on long footſtalks. The leaves of the calyx are of a green colour on their outſide, but white within; the petals are of a white colour; and the rays of a purple or blue colour. The flowers are of excellent fragrance; and though their duration is but ſhort, there will be a ſucceſſion of them for upwards of three months. The fruit is about the ſize of a moderate egg, pulpy, and of a pale-yellow colour when ripe.

Perfoliate, 9. Perfoliate Paſſion Flower. The ſtalks of this plant are very ſlender, channelled, taper, of a purple colour, and grow to about twelve feet long. The claſpers come out from the joints, by which it is enabled to riſe; and from the ſame place the leaves alſo are produced ſingly: Theſe are bilobate, and appear to embrace the ſtalk with their baſe; but, upon cloſe examination, a ſhort footſtalk is found, and it is the lower parts of the lobes only that ſpread themſelves, and ſurround the ſtalk. They are of a ſhining green colour on their upper ſurface, and of a paler colour underneath; they are ſmooth, and have purple veins running from the baſe of each footſtalk to the end of each lobe, which, together with their purple tendrils, catching at every thing that is near them, form a pretty appearance, and conſtitute this plant a beautiful and elegant climber. The flowers grow by pairs oppoſite to each other from the upper parts of the ſtalks, on ſhort purple footſtalks; their colour is purple; and they are ſucceeded by ſmall, oval, pulpy, purple-coloured fruit, containing the ſeeds.

Red, 10. Red Paſſion Flower. The ſtalks of this plant in ſome varieties are round, and in others angular. The leaves are compoſed of two lobes, which are a little indented at their baſe, ſpread far aſunder, and ſeem divided by an acute point, or a very minute lobe in the middle. The flowers are of a delightful-red colour, and are ſucceeded by a large, purple-coloured, hexagonal fruit.

Normal, 11. Normal Paſſion Flower. The ſtalks of this plant are angular, and will grow to be twenty feet long. The leaves are compoſed of two lobes, which are heart-ſhaped, and indented at their baſe; they are very narrow, ſpread far aſunder, and between them is a ſmall, acute, rectangular point, which may not improperly be ſaid to conſtitute a third very ſmall lobe. The flowers grow from the joints, along with the leaves and claſpers, and are ſucceeded by a very ſmall, purple-coloured fruit, containing the ſeeds.

and Muruſcuja or Scarlet Paſſion Flower deſcribed. 12. *Muruſcuja*, or Scarlet Paſſion Flower. The ſtalks of this plant are ſlender, channelled, and will grow to be about twelve feet long. The leaves are moon-ſhaped, and are compoſed of two lobes, which are not indented at their baſe, neither are they ſeparated by any intermediate point. The flowers are of a purple colour, and are ſucceeded by a ſmall, oval, purple-coloured, pulpy fruit, containing the ſeeds.

13. White

White,

13. White Paſſion Flower. The ſtalks of this plant are ſlender, ſtriated, and are covered with a reddiſh-coloured bark. The leaves are compoſed of two wedge-ſhaped lobes, which are ſpotted underneath, and ſpread themſelves out as far diſtant from each other as may be; they are acute, and have each of them a ſtrong conſpicuous vein running lengthways, whilſt a third vein riſes between them, up the middle of the leaf; they grow on footſtalks, and at the bottom of the leaf on each ſide the footſtalk is a ſmall gland. The flowers are of a white colour, ſcentleſs, and of ſo ſhort duration, that a few hours after they are open put a period to their beauty. This plant is called the Bat Paſſion Flower, from the leaves reſembling the wings of a Bat when flying.

Two-horned-leaved,

14. Two-horned-leaved Paſſion Flower. The ſtalks of this plant are very ſlender, and will riſe, by the aſſiſtance of its claſpers, to fifteen or twenty feet high. The leaves grow from the joints with the tendrils; they are compoſed of two lobes, which are rounded at their baſe like an heart, but are terminated by two horns; they are of a deep-green colour on their upper ſurface, but paler underneath, have longitudinal veins, and are ſituated on ſhort footſtalks. The flowers come out from the joints with the leaves and tendrils; they are of a pale-red colour, poſſeſſed of little ſcent, and are ſucceeded by a ſmall, oval, red, or purple-coloured fruit.

Trilobate Round-leaved,

15. Trilobate Round-leaved Paſſion Flower. The leaves of this plant are of a roundiſh figure, though compoſed of three lobes; they are very obtuſe, and are ſo little divided that ſome of them appear like a whole leaf. Their figure is not unlike many of thoſe of the Ivy Tree, which has occaſioned this ſpecies being called by ſome the Ivy-leaved Paſſion Flower. The flowers come out from the joints; their colour is white; and they are ſucceeded by a globular, hairy fruit.

Trilobate Punctated leaved,

16. Trilobate Punctated-leaved Paſſion Flower. The leaves of this plant are compoſed of three oblong, obtuſe lobes, which are rounded at their baſe; the middle one is by far the ſmalleſt; they are very much ſpotted, and have three conſpicuous veins, which diverge from the baſe to the extremity of each lobe. The petals of the flowers are of a white colour, the nectarium is violet-coloured, and the fruit of an oval figure.

Cork-barked,

17. Cork-barked Paſſion Flower. The ſtalks of this plant are covered with a white, fungous kind of bark, which cracks and ſplits like that of the Cork Tree. The leaves are peltated, and each of them is compoſed of three ſmooth, entire lobes, having two ſmall glands at their baſe. The flowers grow from the wings of the leaves; their colour is white; and they are ſucceeded by a ſmall, violet-coloured, oval fruit.

Silky Halberd-leaved,

18. Silky Halberd-leaved Paſſion Flower. The ſtalks of this plant are downy, ſlender, and will grow to be twenty feet long. The leaves are trilobate, and a little indented on each ſide the baſe; they are downy, pointed like the Halberd, ſoft or ſilky to the touch, and grow obliquely on the footſtalk. The flowers grow from the wings of the leaves on ſhort footſtalks; the petals are of a white, the rays of a purple and yellow colour; and the fruit that ſucceeds them is ſmall, roundiſh, and of a yellow colour when ripe.

Hairy Trilobate,

19. Hairy Trilobate Paſſion Flower. The lobes of this plant are oblong, of a whitiſh colour, and very hairy. The flowers are ſmall, and of a white colour; they come out from the wings of the leaves on ſhortiſh footſtalks, and are ſucceeded by an oval, bluiſh, pulpy fruit.

Leaſt,

20. Leaſt Paſſion Flower. This plant is the ſmalleſt of all the Paſſion Flower tribe. The ſtalks are very weak, and ſeldom riſe higher than about four feet. The leaves are compoſed of three lobes, which are ſpear-ſhaped, entire, and the middle one is the largeſt; their colour is a light-green; they are of a thin contexture, and one only comes out with the tendril and flower-ſtalk from each joint. The flowers, which grow ſingly from the joints with the leaves and tendrils, are of a white colour, and of all the Paſſion Flowers the ſmalleſt, and are ſucceeded by a very ſmall, oval fruit, which will be of a purple colour when ripe.

Digitated,

21. Digitated Paſſion Flower. The leaves of this plant are palmated, and each is compoſed of ſeven acute, ſerrated, green ſegments, that are narrow at their baſe, and ſpread themſelves like the fingers of the hand. The flowers are very large, and the fruit is roundiſh.

and Pedated Paſſion Flower deſcribed.

22. Pedated Paſſion Flower. The leaves of this plant are pedated, and each is compoſed of ſeven oval, ſerrated lobes, which are diſpoſed in the manner of thoſe of the Black Hellebore. The flowers are large and curled, and are ſucceeded by a large green fruit.

Culture.

All theſe ſorts are propagated by layers, cuttings, or ſeeds. If the young ſhoots are laid down in the ſpring, or as they ſhot in the beginning of ſummer, they will immediately ſtrike root, and will become good plants by the autumn; when they may be taken off, potted, and may immediately after aſſume their place in the ſtove.

They generally ſucceed very well by cuttings, though it is not ſo ſure a method as the former. The beſt time for planting them is in the beginning of Auguſt; when they ſhould be ſet in pots, and plunged into the bark bed, where they ſhould be well watered and ſhaded, and in a little time they will take root. Many cuttings may be ſet together in a pot to ſave room; and in the ſpring following they may be turned out of the pots, when each plant ſhould be ſet diſtinctly in its own ſeparate pot, which ſhould be directly plunged up to the rims in the bark bed to accelerate its growth towards perfection.

The beſt plants, however, are always raiſed by ſeeds; moſt of them ripen in our ſtoves if the plants have been duly attended to, and they are alſo with eaſe procured from the countries where the plants naturally grow. By this means the beſt ſeeds are obtained, and the manner of raiſing them is as follows: Let a good hotbed be in readineſs by the middle of March, and let it be covered with ſix inches depth of any common mould. Sow the ſeeds in pots filled with a light, rich earth, and immediately plunge the pots into this common mould on the hotbed; the next day give the ſeeds a ſmall ſprinkling of water, and repeat this every day until the plants come up; all the while let out the ſteam as often as you find it proper, keep your glaſſes as dry as may be, and if you find it neceſſary make holes at certain diſtances from each other to let out the heat; and when you find the bed is in good temperature, let the holes be ſtopped again with freſh dung. The ſeeds will readily come up, and then is the time to grant them a due admiſſion of air, to prevent the plants drawing weak, and being bad coloured; let this be ſtrictly attended to, afford them waterings at times, and in a very little time the plants will make a conſiderable progreſs, when they require to be ſhifted each to its own ſeparate pot. Againſt this time a ſecond hotbed muſt be in readineſs, which ſhould be covered with mould as before; then the plants muſt be ſhaken out of the pots, and each plant muſt be ſet in its own ſeparate ſmall pot filled with light, rich mould; the pots muſt be next plunged up to the rims in the mould of the hotbed, and muſt be watered. If hot weather ſhould happen, the glaſſes muſt be ſhaded with mats, watering muſt be repeated as often as it ſhall be neceſſary, a due admiſſion of air muſt be granted to the plants, and they will ſoon make ſuch progreſs as to require the glaſſes to be raiſed; during which time ſticks ſhould be thruſt down by their ſides to train them up to, and when they are got to the top of the glaſſes the frames muſt be raiſed; and this management muſt be repeated until the heat of the bed is quite exhauſted. Againſt this time larger pots muſt be in readineſs for their reception: In theſe the plants are to be ſet, and the pots are directly to be plunged up to the rims in the bark bed of the ſtove, where the plants are to remain to flower and fruit.

For theſe plants the ſtove ſhould be very large; and the pots alſo in which they are placed ſhould be of the largeſt ſort. They ſhould be ſituated on the back part of the bed, and ſhould be trained up as Eſpaliers to have the beſt effect. As much mould as poſſible ſhould be taken out of the pots every year, and freſh mould added to nouriſh the roots: Once in three years the plants ſhould be taken up, their heads reduced, their roots pared, and then ſet again in freſh mould in the pots, letting the old mould near the center of the roots remain undiſturbed. The ſpring is the beſt time for this operation; they muſt immediately after reſume their old ſituation in the bark bed, and muſt be well watered.

They will ſoon ſhew good ſigns of growth, and may be trained to the Eſpalier, as before; obſerving always, at each reduction of this nature, to plant ſome cuttings of the different ſorts in pots, to raiſe freſh plants to ſupply the places of thoſe which may fail through ſuch bad accidents as will ever at times be attendant on the Gardener's practice.

It is a cuſtom with ſome to turn the plants, with the mould at the roots, into the bark bed, by which means they will grow amazingly, and the largeſt ſorts may be made to cover the back walls, ceiling, and, in ſhort, all the inſide of the houſe; but when the beds are obliged to be removed, the roots are either ſcalded, or they have received ſuch a check from diveſting them of their old rotten tan, that they ſeldom do well afterwards.

Theſe plants may be alſo ſet in the dry ſtove, and trained up againſt the back wall, where, if they are duly watered, they will do very well; though it muſt be obſerved, that this is by far an inferior ſtation to the bark bed.

When the ſeminary ſucceeds, and plenty of plants happen to be raiſed, a ſhare of them ſhould be raiſed more hardily from the firſt; and theſe may be ſet in the Green-houſe, where they will flower, and ſometimes produce fruit, tho' they will ſeldom bring it to its true ſize and colour.

Titles.

Serratifolia. 1. Undivided Serrated-leaved Paſſion Flower is titled, *Paſſiflora foliis indiviſis ſerratis.* In the *Hort. Cliff.* it is termed, *Paſſiflora foliis ovato-lanceolatis integris ſerratis.* Martin calls it, *Granadilla Americana, folio oblongo leviter ſerrato, petalis ex viridi rubeſcentibus.* It is a native of Surinam.

Pallida. 2. Braſilian Pale-coloured Paſſion Flower is titled, *Paſſiflora foliis indiviſis ovatis integerrimis: petiolis biglanduloſis.* Plumier calls it, *Clematis Indica alia, flore minore pallido*; and Moriſon, *Clematis Muruſtuja pyriformis minor.* It grows naturally in the Braſils.

Cuprea. 3. Oval-leaved Paſſion Flower from the Bahama Iſlands is titled, *Paſſiflora foliis indiviſis ovatis integerrimis: petiolis æqualibus.* Dillenius calls it, *Granadilla flore cupreo, flore oliviformi*; Martin, *Granadilla Americana, fructu ſubrotundo corollâ floris erectâ, petalis amœnè fulvis, foliis integris*; and Cateſby, *Granadilla foliis ſarſaparillæ trinerviis, flore purpureo, fructu olivæformi cæruleo.* It grows naturally in the Bahama and Providence Iſlands.

Tiliafolia. 4. Lime-leaved Paſſion Flower is titled, *Paſſiflora foliis indiviſis cordatis integerrimis: petiolis æqualibus.* Fewill calls it, *Granadilla pomifera, tiliæ folio.* It grows naturally in Peru and Lima.

Maliformis. 5. Broad-leaved Indian Paſſion Flower is titled, *Paſſiflora foliis indiviſis cordato-oblongis integerrimis: petiolis biglanduloſis, involucris integerrimis.* Van Royen calls it, *Paſſiflora foliis cordato-oblongis integerrimis, floribus ſolitariis, involucro tripartito integerrimo*; and Plumier, *Clematis Indica latifolia, flore clavato, fructu maliformi.* It grows naturally in Dominica.

Quadrangularis. 6. Quadrangular Paſſion Flower is titled, *Paſſiflora foliis indiviſis ſubcordatis integerrimis, petiolis ſexglanduloſis, caule membranaceo tetragono.* Brown calls it, *Paſſiflora foliis amplioribus cordatis, petiolis glandulis ſex, caule quadrangulo alato.* It grows naturally in Jamaica.

Laurifolia. 7. Laurel-leaved Paſſion Flower is titled, *Paſſiflora foliis indiviſis ovatis integerrimis petiolis biglanduloſis, involucris dentatis.* Van Royen calls it, *Paſſiflora foliis ſolitariis oblongis integerrimis, floribus ſolitariis, involucro tripartito dentato*; Plukenet, *Paſſiflora arborea, laurinis foliis, Americana*; and Plumier, *Clematis Indica, fructu citriformi, foliis oblongis.* It grows naturally in Surinam.

Multiflora. 8. *Polyanthos* Paſſion Flower is titled, *Paſſiflora foliis indiviſis oblongis integerrimis, floribus confertis.* Plukenet calls it, *Paſſiflora laurinis foliis, polyanthos Americana*; and Plumier, *Granadilla, flore minore corymboſo*; alſo, *Clematis Indica polyanthos odoratiſſima.* It grows naturally in Dominica.

Perfoliata. 9. Perfoliate Paſſion Flower is titled, *Paſſiflora foliis bilobis oblongis tranſverſis amplexicaulibus petiolatis ſubtus punctatis.* Brown calls it, *Paſſiflora foliis trilobis: cruribus oblongis obtuſis: intermedio obſoleto ſetulâ terminato*; and Sloane, *Flos paſſionis perfoliatus, ſive periclymeni perfoliati folio.* It grows naturally in the woodland parts of Jamaica.

Rubra. 10. Red Paſſion Flower is titled, *Paſſiflora foliis bilobis acuminatis.* Brown calls it, *Paſſiflora foliis tenuioribus trinerviis bicornibus lunatis; ſinu anteriore obtuſo*; Plumier, *Clematis Indica, flore clavato ſuaverubente, fructu hexagono coccineo, folio bicorni*; and Sloane, *Flos paſſionis folii mediâ laciniâ quaſi abſciſſâ, flore minore carneo.* It grows naturally in Jamaica, Dominica, Martinico, and Cayenne.

Normalis 11. Normal Paſſion Flower is titled, *Paſſiflora foliis bilobis baſi emarginatis: lobis linearibus obtuſis divaricatis: intermedio obſoleto mucronato.* Brown calls it, *Paſſiflora foliis trilobis: cruribus anguſtis oblongis, intermedio ferè obſoleto*; and Hernandes, *Coanenepilli, ſive Contrajerva.* It grows naturally in New Spain.

Murucuja. 12. *Muruſcuja*, or Scarlet Paſſion Flower, is titled, *Paſſiflora foliis bilobis obtuſis baſi indiviſis, nectariis monophyllis.* Van Royen calls it, *Paſſiflora foliis bilobis obtuſis, nectariis indiviſis*; and Plumier, *Clematis Indica, flore puniceo, folio lunato.* It grows naturally in Dominica.

Vespertilio. 13. White, or Bat, Paſſion Flower is titled, *Paſſiflora*

Paſſiflora foliis bilobis baſi rotundatis glanduloſiſque: lobis acutis divaricatis ſubtus punctatis. In the *Virid. Cliff.* 91. it is termed, *Paſſiflora foliis obverſè lunatis: punctis duobus melliferis ſub baſi.* Dillenius calls it, *Granadilla bicornis, flore candido: filamentis intortis*; and Martyn, *Granadilla folio lunato, flore parvo albo, fructu ſucculento ovato.* It grows naturally in America.

Capſularis. 14. Two-horned-leaved Paſſion Flower is titled, *Paſſiflora foliis bilobis cordatis oblongis petiolatis.* Plumier calls it, *Granadilla fructu rubente, folio bicorni.* It grows naturally in Jamaica.

Rotundi-folia. 15. Round-leaved Trilobate Paſſion Flower is titled, *Paſſiflora foliis ſubtrilobis obtuſis ſubrotundis.* Plumier calls it, *Granadilla folio hederaceo, flore albo, fructu globoſo villoſo.* It grows naturally in South America.

Punctata 16. Punctated Trilobate Paſſion Flower is titled, *Paſſiflora foliis trilobis oblongis ſubtus punctatis: intermedio minore.* Van Royen calls it, *Paſſiflora foliis bilobis obtuſis, nectario multifido*; and Fewill, *Granadilla folio tricuſpidi obtuſo & oculato.* It grows naturally in Peru.

Suberosa 17. Cork-barked Paſſion Flower is titled, *Paſſiflora foliis trilobis ſubpeltatis, cortice ſuberoſo.* Van Royen calls it, *Paſſiflora foliis trilobis peltatis integris: glandulis duabus ſub dorſo baſi convexis*; Plumier, *Clematis Indica, folio hederaceo, major, fructu olivæformi*; Plukenet, *Paſſifloræ affinis, hederæ folio, Americana*; and Sloane, *Flos paſſionis minor, foliis in tres lacinias non ſerratas profundius diviſis, flore luteo.* It grows naturally in Dominica.

18. Silky Halberd-leaved Paſſion Flower is titled, *Paſſiflora foliis trilobis tomentoſis: baſi utrinque denticulo reflexo.* In the *Hort. Cliff.* it is termed, *Paſſiflora foliis cordato-trilobis integerrimis, baſi utrinque denticulo reflexo.* Martin calls it, *Granadilla folio haſtato holoſericeo, petalis candicantibus: fimbriis ex purpureo & luteo variis.* It grows naturally at La Vera Cruz. Holoſericea.

19. Hairy Trilobate Paſſion Flower is titled, *Paſſiflora foliis trilobis villoſis, floribus oppoſitis.* Plukenet calls it, *Paſſiflora non crenata Americana triphylla*; Plumier, *Clematis Indica flore minore pallido*; and Herman, *Flos paſſionis albus, folio ibiſci ſericeo trilobato.* It grows naturally in Dominica and Curaſſao. Hirsuta.

20. Leaſt Paſſion Flower is titled, *Paſſiflora foliis trilobis integerrimis: lobis ſublanceolatis: intermedio productiore.* Plukenet calls it, *Paſſiflora, ſive flos paſſionis Curaſſavicus, folio glabro trilobato & anguſto, flore flaveſcente omnium minimo.* It grows naturally in Curaſſao. Minima.

21. Digitated Paſſion Flower is titled, *Paſſiflora foliis palmatis ſerratis.* Plumier calls it, *Clematis Indica polyphylla major, flore clavato, fructu colocynthidis.* It grows naturally in Martinico. Digitata.

22. Pedated Paſſion Flower is titled, *Paſſiflora foliis pedatis ſerratis.* Plumier calls it, *Clematis Indica polyphylla, flore criſpato.* It grows naturally in Dominica. Pedata.

C H A P. CLXXI.

PAULLINIA.

THE following ſpecies compoſe this genus:

Species.

1. Climbing Three-leaved *Seriana.*
2. Climbing Three-leaved *Cururu.*
3. Climbing Nine-leaved *Cururu.*
4. Polyphyllous *Paullinia.*
5. Pinnated *Paullinia.*
6. Mexican *Paullinia*, or Nine-leaved *Seriana.*
7. Aſiatic *Paullinia.*

Climbing Three-leaved Seriana deſcribed. 1. Climbing Three-leaved *Seriana.* The ſtalk is woody, ſends out ſeveral ſlender branches, which are poſſeſſed of tendrils, and faſten themſelves to every thing that is near them; and if ſupported riſe to twenty or thirty feet. The leaves are compoſed of three oval, oblong folioles, indented on their edges, and grow on taper footſtalks. The flowers come out in looſe bunches from the ends of the branches; they are of a white colour, and are ſucceeded by large capſules carrying the ſeeds at the baſe, but they do not ripen in England.

Climbing Three-leaved 2. Climbing Three-leaved *Cururu.* This plant climbs up the neighbouring trees thirty feet high, or more. The leaves are compoſed of three wedge-ſhaped, obtuſe, ſlightly-indented, ſmooth folioles, growing on bordered footſtalks. The flowers are ſucceeded by capſules carrying the ſeeds at the apex, which do not ripen in England.

and Climbing Nine-leaved Cururu deſcribed. 3. Climbing Nine-leaved *Cururu* is a ligneous climber, which, if ſupported, will grow to be twenty or thirty feet high. The leaves are compoſed of nine oval, ſinuated folioles, and grow ſingly at the joints. The flowers are produced in looſe bunches from the upper parts of the plants, and are ſucceeded by large triquetrous capſules, of a red colour when ripe, which rarely happens in England.

Polyphyllous, 4. Polyphyllous *Paullinia.* The ſtalk is woody, branching, and poſſeſſed of tendrils aſſiſting it to climb. The leaves are triternate, and grow ſingly at the joints. The flowers come out in panicles from the ends of the branches, and are ſucceeded by the capſules carrying the ſeeds at the baſe, like the firſt ſort.

Pinnated, 5. Pinnated *Paullinia.* The ſtalk is woody, branching, and poſſeſſed of tendrils aſſiſting it to climb. The leaves are pinnated; the folioles are oblong, oval, cut on the edges, and grow on bordered footſtalks. The flowers come out from the upper parts of the plants in long, ſlender, looſe bunches; they are ſmall, of a whitiſh colour, and are ſucceeded by the fruit, which is of a fine-ſcarlet colour when ripe.

and Mexican Paullinia deſcribed. 6. Mexican *Paullinia.* The ſtalk is woody, climbing, and armed with ſharp ſpines. The leaves are biternate, the folioles being oval and entire, and grow ſingly at the joints on bordered or winged footſtalks. The flowers come out from the upper parts of the plant in long, looſe bunches, and are ſucceeded by capſules of the ſame property with the firſt ſort.

Aſiatic Paullinia deſcribed.

7. Aſiatic *Paullinia*. The ſtalk is woody, prickly, and diſpoſſeſſed of tendrils or claſpers. The leaves are trifoliate, and grow ſingly at the joints. The flowers are produced in ſpikes from the wings of the ſtalks, and are ſucceeded by large berry-like capſules, containing the ſeeds.

Culture.

All theſe plants are propagated from ſeeds, which muſt be procured from the countries where they naturally grow. They muſt be ſown in pots filled with light, freſh earth, and plunged into a hotbed of tanner's bark. It ſometimes happens that the plants are a long time before they come up, even a year, during which time the mould muſt be kept moiſt in the pots; and the pots in the autumn muſt be ſet in the ſtove. When the plants are come up, they muſt be frequently refreſhed with water; and when they are about three or four inches high, they muſt be potted ſeparately, and be again plunged into the bark bed. Here they muſt be watered and ſhaded until they have taken root, and after that muſt have more air, eſpecially in hot weather. As they encreaſe in height, they muſt be ſhifted into larger pots, and be trained up to a trelace, or proper ſtakes be thruſt down for their ſupport, otherwiſe they will lay hold of contiguous plants, and cauſe great diſorder in the ſtove. A moderate degree of artificial heat will be ſufficient for theſe plants; but they muſt remain conſtantly in the bark bed, where they will require but little water in winter, but muſt have it duly, together with a large ſhare of free air, in hot weather in ſummer.

Titles.

Seriana.

1. The firſt ſpecies is titled, *Paullinia foliis ternatis, petiolis teretiuſculis, foliolis ovato-oblongis.* In the *Hort. Cliff.* it is termed, *Paullinia foliis ternatis, foliolis crenatis, pedunculis cirrhiferis.* Plumier calls it, *Seriana ſcandens triphylla & racemoſa.* It grows naturally in moſt of the warm parts of America.

Cururu.

2. The ſecond ſpecies is titled, *Paullinia foliis ternatis, petiolis marginatis, foliolis cuneiformibus obtuſis ſubdentatis.* In the *Hort. Cliff.* it is termed, *Paullinia foliis ternatis, foliolis obtuſis vix denticulatis glabris deſinentibus in petiolum proprium.* Plumier calls it, *Cururu ſcandens triphylla.* It grows naturally in the warmeſt parts of America.

Curassavica.

3. The third ſpecies is titled, *Paullinia foliis biternatis, foliolis ovatis ſubſinuatis.* In the *Hort. Cliff.* it is termed, *Paullinia foliis decompoſitis ternatis, caule inermi.* Plumier calls it, *Cururu ſcandens enneaphylla, fructu racemoſo rubro*; and Plukenet, *Cordis indi folio & facie fruteſcens Curaſſavica latifolia.* It is a native of Curaſſao.

Polyphylla.

4. The fourth ſpecies is titled, *Paullinia foliis triternatis.* In the *Hort. Cliff.* it is termed, *Paullinia foliis ſupradecompoſitis.* Plumier calls it, *Seriana fruteſcens polyphylla & racemoſa*; and Plukenet, *Cordis indi folio & facie fruteſcens Portoricenſis.* It grows naturally in America.

Pinnata.

5. The fifth ſpecies is titled, *Paullinia foliis pinnatis: foliolis inciſis, petiolis marginatis.* Sloane calls it, *Piſum cordatum non veſicarium*; Plumier, *Cururu ſcandens pentaphylli*; alſo, *Clematis pentaphylla, pediculis alatis, fructu racemoſo tricocco & coccineo.* It grows naturally in Jamaica, Domingo, and the Braſil Iſlands.

Mexicana.

6. The ſixth ſpecies is titled, *Paullinia foliis biternatis, petiolis marginatis, foliolis ovatis integris.* In the *Hort. Cliff.* it is termed, *Paullinia foliis ternato-decompoſitis, caule aculeato.* Plumier calls it, *Seriana ſcandens enneaphylla & racemoſa*; and Hernandez, *Quauhmecati.* It grows naturally in the warmeſt parts of America.

Asiatica.

7. The ſeventh ſpecies is titled, *Paullinia foliis ternatis, caule aculeato, cirrhis nullis.* Burman calls it, *Chamælæa trifolia aculeata*; Plukenet, *Frutex baccifer Indicus ſpinoſus trifolius, floribus ſpicatis*; and Rheede, *Kaka-toddali.* It grows naturally in India.

Claſs and Order in the Linnæan Syſtem. The characters.

Paullinia is of the Claſs and Order *Octandria Trigynia*; and the characters are,

1. Calyx is a perianthium compoſed of five oval, concave, patent, permanent leaves; the two exterior ones being placed oppoſite, and one of the interior larger than the reſt.

2. Corolla conſiſts of five oboval, oblong, unguiculated petals, twice as large as the calyx, two of them being more diſtant than the others.

There are two nectariums; one is tetrapetalous, and inſerted in the ungues of the corolla; the other is compoſed of four glands at the baſes of the petals.

3. Stamina are eight ſhort, ſimple filaments, with ſmall antheræ.

4. Piſtillum conſiſts of a turbinated, triquetrous, obtuſe germen, and three ſhort, filiforme ſtyles, with ſimple, patent ſtigmas.

5. Pericarpium is a large, triquetrous capſule, formed of three valves, and containing three cells.

6. Semen. The ſeed is ſingle, and nearly oval.

C H A P. CLXXII.

PERIPLOCA, INDIAN SILK.

The plant deſcribed.

THERE is one ſpecies of this genus proper for the ſtove, called, Indian *Periploca*.

There are many varieties of this ſpecies, differing in reſpect to their height, narrowneſs of the leaves, colour of their flowers, &c. The ſtalks of all are ſlender, perennial, twiſt about themſelves, and whatever is near them. The leaves are oval, ſpear-ſhaped, ſmooth, and acute. The flowers come out from the ſides of the ſtalks in ſmall ſpikes; they are of different colours in the different varieties; they appear great part of the ſummer, and are ſucceeded by long follicules full of ſeeds, having down at their tops.

Culture.

This ſpecies is raiſed from ſeeds and layers, like the African *Periploca* for the Green-houſe. In the autumn the plants muſt be removed into the temperate ſtove; for a moderate degree of artificial heat only is neceſſary to ſhew them in a flouriſhing healthy ſtate.

The

Titles. Indica.

The title of this ſpecies is, *Periploca ſpicis imbricatis.* In the *Flora Zeylanica* it is termed, *Periploca, foliis ovatis acutis glabris, ſpicis imbricatis.* Van Royen calls it, *Apocynum caule volubili perenni, foliis ovato-lanceolatis*; Burman, *Periploca foliis anguſtis acutis glabris*; and Plukenet, *Apocyni genus ſcandens ex Indiâ Orientali.* It grows naturally in Ceylon.

CHAP. CLXXIII.

PETESIA.

Species.

THIS genus conſiſts of three ſpecies, called,

1. Stipulary *Peteſia.*
2. *Lygiſtum.*
3. Tomentoſe *Peteſia.*

Stipulary Peteſia deſcribed.

1. Stipulary *Peteſia.* The ſtalk is woody, branching, and grows to three or four feet high. The leaves are ſpear-ſhaped, oval, entire, downy underneath, and grow oppoſite to each other, attended with very rigid ſtipulæ. The flowers come out in ſhort, looſe bunches from the ſides of the branches, and are ſucceeded by roundiſh berries, which rarely ripen in England.

Lygiſtum deſcribed.

2. *Lygiſtum.* This plant hath a ſhrubby, ſmooth, flexuoſe ſtalk, which requires ſupport. The leaves are oval, naked, veined, acute-pointed, and grow oppoſite to each other on footſtalks. The flowers come out in ſmall bunches from the wings of the leaves, and are ſucceeded by globular berries containing the ſeeds.

Tomentoſe Peteſia deſcribed.

3. Tomentoſe *Peteſia.* The ſtalk of this ſpecies is woody, and divides into ſeveral woolly branches. The leaves are oblong, white, and woolly on both ſides. The flowers come out from the ſides of the branches, and are ſucceeded by globular berries, each containing a few roundiſh ſeeds.

Culture.

Theſe plants are beſt propagated by ſeeds procured from the countries where they naturally grow. They ſhould be brought over in the berries, and ſown in the ſpring, in pots filled with light, ſandy, but rich earth, and plunged into a bark-bed. When the plants are fit to remove, they muſt be ſet ſeparately in pots filled with the like kind of earth, and plunged into the hotbed, as before; and afterwards muſt have more air, eſpecially in hot weather; but they muſt not be wholly taken out of the bed until the autumn, when they muſt be removed into a good bark ſtove, where they muſt conſtantly remain under the care and diſcipline of tender plants.

Titles. Stipularis.

1. The firſt ſpecies is titled, *Peteſia foliis lanceolato-ovatis ſubtus tomentoſis, thyrſis lateralibus.* Brown calls it, *Peteſia fruticoſa, foliis ovatis oppoſitis, ſtipulis rigidis interpoſitis, racemis minoribus, calyce quinqueſido.* It grows naturally in Jamaica.

Lygistrum.

2. The ſecond ſpecies is titled, *Peteſia foliis ovatis nudis lineatis, caule flexuoſo.* Brown calls it, *Lygiſtum flexile fruticoſum, foliis ovatis oppoſitis, petiolis pedatis, racemis alaribus.* It grows naturally in Jamaica.

3. The third ſpecies is titled, *Peteſia foliis oblongis utrinque tomentoſis.* It grows naturally in America.

Claſs and Order in the Linnæan Syſtem. The characters.

Peteſia is of the Claſs and Order *Tetrandria Monogynia*; and the characters are,

1. CALYX is a monophyllous, bell-ſhaped perianthium, ſituated above the germen.
2. COROLLA is one infundibuliforme petal. The tube is cylindrical, and longer than the calyx. The limb is compoſed of four rounded, obtuſe lobes.
3. STAMINA are four awl-ſhaped filaments the length of the tube, having oblongiſh antheræ.
4. PISTILLUM conſiſts of a germen ſituated below the calyx, a filiforme ſtyle, and a bifid, acute ſtigma.
5. PERICARPIUM is a globular, coronated berry, containing two cells,
6. SEMINA. The ſeeds are few, and roundiſh.

CHAP. CLXXIV.

PETIVERIA, GUINEA HENWEED.

Species.

THERE are two diſtinct ſpecies of this genus, called,

1. Garlick *Petiveria,* or Guinea Henweed.
2. Octandrous *Petiveria.*

Garlick Petiveria, or Guinea Henweed deſcribed.

1. Garlick *Petiveria,* or Guinea Henweed. The ſtalks are ligneous, jointed, upright, and three or four feet high. The leaves are oblong, oval, veined, of a deep-green colour, and placed alternately on ſhort footſtalks. The flowers are produced in long ſpikes from the ends of the branches; they are of a white colour, appear in June and July, and the ſeeds ripen in the autumn. The whole of this plant is ſtrongly ſcented in the manner of wild Garlick and the very fleſh, as well as milk of cattle that have fed on it, and killed ſoon after, is poſſeſſed of the ſame flavour.

Octandrous Petiveria deſcribed.

2. Octandrous *Petiveria.* The ſtalks are woody, upright, firm, jointed, and two or three feet high. The leaves are oblong, rigid, ſmooth, and of a dark-green colour. The flowers are produced in ſpikes from the tops of the ſtalks; they are octandrous, and of a purple colour, appear in June and July, and the ſeeds ripen in the autumn.

Culture.

Theſe plants are propagated by planting ſlips or cuttings in pots filled with light earth, and plunging them into a hotbed of tanner's bark; they muſt be kept ſhaded and duly watered until they have taken root; and when they have commenced a good growing ſtate, they muſt be hardened by degrees to the open air: Then the glaſſes ſhould be wholly taken off; but the plants ſhould remain in the beds until the autumn, when they ſhould be removed into the cooleſt bark ſtove for their winter lodgings. They are tolerably hardy, and may every year be ſet abroad for two or three months, during the hotteſt part of the ſummer.

They are alſo raiſed by ſeeds; and as they ripen very well with us, it is the moſt eligible method of propagating theſe plants. They ſhould be ſown in a hotbed in the ſpring; and when the plants are three inches high, they muſt be planted ſeparately in pots filled with light, freſh earth: They muſt be then plunged into a freſh hotbed, where they are to be watered and kept ſhaded until they have taken root; after which they muſt be hardened by degrees to the open air, and managed like the cuttings.

Titles. Alliacea

1. The firſt ſpecies is titled, *Petiveria floribus hexandris.* Brown calls it, *Petiveria foliis oblongo-ovatis, ſpicis longioribus terminalibus*; and Sloane, *Verbenæ aut ſcorodoniæ affinis anomala, flore albido, calyce aſpero, allii odore.* It grows naturally in moſt of the Weſt India Iſlands.

2. The ſecond ſpecies is titled, *Petiveria floribus octandris.* Plumier calls it, *Petiveria ſolani foliis loculis ſpinoſis.* It grows in moſt parts of the Weſt Indies. Octandra.

Claſs and Order in the Linnæan Syſtem. The characters.

Petiveria is of the Claſs and Order *Hexandria Tetragynia*; and the characters are,

1. CALYX is a perianthium, compoſed of four narrow, obtuſe, equal, erect, permanent leaves.

2. COROLLA. There is none.

3. STAMINA are ſix awl-ſhaped, erect, equal filaments, the length of the calyx, having ſimple antheræ.

4. PISTILLUM conſiſts of an oblong, compreſſed germen, and four awl-ſhaped ſtyles placed in a right line, having obtuſe, permanent ſtigmas.

5. PERICARPIUM. There is none, otherwiſe than the cruſt of the ſeed.

6. SEMEN. The ſeed is ſingle, oblong, ſomewhat taper, and narrow at the bottom, but broad at the top, compreſſed, emarginated, and armed with four ſtyles, which are acute, rigid, and reflexed.

* * *

CHAP. CLXXX.

PETREA.

Species.

WE have at preſent only one ſpecies of this genus, called, *Petrea.*

The plant deſcribed.

The ſtem is woody, of a greyiſh colour, ſends out ſeveral branches, which are covered with a whitiſh bark; and the tree grows to be twelve, fourteen, or ſixteen feet high. The leaves are oblong, pointed at each end, entire, rough, of a firm ſubſtance, of a light-green colour, and on the lower parts of the branches grow by threes; but, towards the extremity, ſtand by pairs at the joints. The flowers are produced from the ends of the branches in long, looſe, ſlender bunches; they are of an elegant blue colour, and extremely beautiful; but the ſeeds do not ripen in England. There is a variety of this ſpecies with white petals and blue cups; and another with yellowiſh flowers.

Culture.

This plant is propagated by ſeeds procured from America. They are to be ſown in pots filled with light, freſh earth, and plunged into a hotbed of tanner's bark; the mould muſt be frequently ſprinkled with water to keep it moiſt; and if the ſeeds are good, in about ſix weeks or two months they will come up, when great care muſt be taken not to draw the plants too weak, nor yet to admit more air than they can bear in that tender ſtate. When they are about three or four inches high, they are to be planted ſeparately in pots filled with the like kind of light, good mould, and they muſt be plunged into the hotbed as before: Here they muſt be duly watered and kept ſhaded until they have taken root; and afterwards muſt have more air. In the autumn they muſt be taken into a good bark ſtove, where they muſt conſtantly remain, ſhifting them from time to time into larger pots, as often as they ſhall require it, keeping them warm in winter, and allowing them much free air and regular ſupplies of water in ſummer.

Title. Volubilis.

There being no other ſpecies of this genus, it is named ſimply, *Petrea.* It grows naturally in America.

Claſs and Order in the Linnæan Syſtem. The characters.

Petrea is of the Claſs and Order *Didynamia Angioſpermia*; and the characters are,

1. CALYX is a monophyllous, bell-ſhaped perianthium. The limb is deeply cut into five large, oblong, obtuſe, coloured, ſpreading, permanent ſegments.

2. COROLLA is one rotated, unequal petal, ſmaller than the calyx. The tube is very ſhort. The limb is plane, and divided into five rounded, nearly equal ſpreading ſegments.

3. STAMINA are four filaments within the tube of the corolla, of which two are ſhorter than the others, having oval, erect antheræ.

4. PISTILLUM conſiſts of an oval germen, a ſimple ſtyle the length of the ſtamina, and an obtuſe ſtigma.

5. PERICARPIUM is an oboval, bilocular capſule, plane at the top, and covered by the calyx.

6. SEMEN. The ſeed is ſingle.

CHAP. CLXXVI.

PHASEOLUS, KIDNEY-BEAN.

Species.

THERE are two tender ſpecies of this genus that are long-lived plants with due nurſing and care. Theſe are called,

1. The *Caracalla* Kidney-bean.
2. The Downy-ſeeded Kidney-bean.

The Caracalla Kidney-bean deſcribed.

1. The *Caracalla* Kidney-bean ſends from the root many twining ſtalks, which by the help of thick buſhes will ſhew themſelves to the height of fourteen or fifteen feet. The leaves very much reſemble thoſe of the Common Garden Kidney-bean, but are not ſo large; and the flowers grow from the ſides of the branches in ſmall ſpikes: Their colour is purple, and they are agreeably ſcented; they will be in blow in July and Auguſt, and are ſometimes ſucceeded by ſmooth, taper pods, containing the ſeeds, which ſeldom ripen in England.

The Downy-ſeeded Kidney-bean deſcribed.

2. The Downy-ſeeded Kidney-bean. This hath ſeveral twining ſtalks, which will ariſe by ſupports to twelve or fourteen feet high. The leaves are angular, and much reſemble ſome of thoſe of our Ivy. The flowers are produced in kind of heads, in July, Auguſt, and September; they are of a fine red, or roſe colour; and they are ſucceeded by four-cornered, cylindrical, mealy ſeeds, which ſeldom come to perfection in England.

Culture.

Both theſe ſorts are raiſed by ſowing the ſeeds on a moderate hotbed, covered with light, freſh, ſandy earth, in the ſpring; and when the plants are fit to remove, each ſhould be ſet in a ſeparate ſmall pot, filled with the ſame kind of light mould. The pots ſhould be immediately watered, and plunged into a ſecond hotbed; they muſt be ſhaded in the heat of the day, and muſt have plenty of air when the weather will permit. By the beginning of July they muſt be hardened to ſtand abroad; and before the autumnal colds advance, they muſt be removed into the green-houſe for a few weeks; and afterwards placed in the ſtove for their winter's lodgings. In the ſpring the plants will require to be ſhifted into larger pots; and about June they may be ſet abroad with other tender plants. In the autumn they muſt be removed into the ſtove as before; or they may be preſerved through the winter in a good green-houſe; eſpecially the firſt ſort, which is much more hardy than the ſecond, and is uſed in Italy, Portugal, and Spain, for the covering of arbours, in the ſame manner we uſe woodbines, &c.

Titles.

1. *Caracalla* Kidney-bean is titled, *Phaſeolus volubilis, vexillis carinâque ſpiraliter convolutis.* Van Royen calls it; *Phaſeolus radice perenni ſubrotundâ, leguminibus folio longioribus tereti uſculis glabris*; and Triumfetti, *Phaſeolus Indicus, cochleato flore.* It grows naturally in India.

Caracalla.

2. The Downy-ſeeded Kidney-bean is titled, *Phaſeolus volubilis pedunculis ſub-capitatis, ſeminibus tetragono-cylindricis pulverulentis.* This is, *Phaſeolus peregrinus, flore roſeo, ſemine tomentoſo*; *Niſſ. Act.* 1730. p. 577. t. xlii. and the *Phaſeolus Indicus, hederæ folio anguloſo, ſemine oblongo lanuginoſo*; Ray's Suppl. 348. It grows naturally in India.

Farinoſus.

* * *

CHAP. CLXXVII.

PHOENIX, The GREAT PALM, or DATE-TREE.

Species.

THERE is only one ſpecies of this genus, called, The Common Great Palm, or Date Tree.

The plant deſcribed.

The trunk is thick, ſtraight, undivided, full of pith, but ligneous on the outſide, and made ragged by the cicatrices of fallen leaves. The leaves riſe at the top like a column, and afterwards expand themſelves every way in a moſt beautiful circular manner; they are pinnated, and the pinnæ are ſword-ſhaped, three or four feet long, and much reſemble the leaves of reeds: The whole form a very beautiful, conical head, having a body of unexpanded, erect leaves at the top, others around them nearly diſengaged, whilſt the loweſt, which are perfectly free, form a kind of arch in a very ſingular manner. As the plant aſpires in height, the lower leaves fall away, leaving their veſtiges on the trunk of the plant; but others again are ſtill ariſing and expanding themſelves from the conical cluſter at the top, ſo that the beauty of the head is preſerved, and the main trunk of the plant left naked. Theſe leaves in grown trees are eight feet long, and were formerly called Branches, being all the tree is poſſeſſed of. The flowers come out in large cluſters from among the leaves; they are white, or of a whitiſh-yellow colour; and the females are ſucceeded by oval berries, which are the Dates of the ſhops.

Culture.

This ſpecies is propagated by planting the ſeeds in pots filled with the ſame ſort of compoſt as is directed for the *Auriculas*; and for want of this, mould from a well-ordered kitchen garden, that has been well dunged the laſt year, mixed with a fourth part of drift or ſea-ſand will do. The pots muſt be then plunged up to the rims in a moderate hotbed of tanner's bark, the mould in the pots muſt be kept moiſt by frequent ſprinklings of water; and when the plants are two inches high, they muſt be potted ſeparately, and plunged again into the bark bed. The pots muſt be very ſmall at firſt, and the plants much ſhaded and watered. As ſoon as you find them in a good growing ſtate, they muſt have more air, and in the autumn be taken into a temperate bark-ſtove. If there is the conveniency of a good ſtove, the plants may be more forced all ſummer, and in the autumn be removed into the bark bed, and it will cauſe them to make conſiderable progreſs; nay, they may by that means be made to grow faſter than they do in their native countries; even there they advance very ſlowly in height. Theſe plants may be preſerved in a good green-houſe, if they are not too much forced at firſt; but the progreſs they will make in a large term of years will be ſo inconſiderable, that the raiſing them that way is not worth the attempt. They muſt every year be ſhifted into larger pots as they increaſe in ſize, be now and then ſparingly watered in winter, but muſt be frequently watered, eſpecially in hot weather, in ſummer: In ſhifting the plants, great care muſt be taken not to break the roots, which will greatly damage, if not kill them.

Titles.

Dactylife=ra.

The Great Palm, or Date Tree, is titled, *Phœnix frondibus pinnatis: foliis enſiformibus complicatis.* Van Royen calls it, *Phœnix frondibus pinnatis: foliis alternis enſiformibus baſi complicatis, ſtipitibus compreſſis dorſo rotundatis*; Sloane, *Palma dactylifera major vulgaris*; Caſpar Bauhine, *Palma major*; and John Bauhine, *Palma.* It grows naturally in India.

Claſs and Order in the Linnean Syſtem.

Phœnix is of the Claſs and Order *Dioecia Triandria*; and the characters are,

I. Male Flowers.

The characters.

1. Calyx. The general ſpatha is compoſed of one valve. The ſpadix is branching. The perianthium is divided into three ſmall, permanent parts.

2. Corolla is three concave, oval, oblongiſh petals.

3. Stamina are three very ſhort filaments, having linear, four-cornered antheræ the length of the corolla.

II. Female Flowers.

1. Calyx as in the male.

2. Corolla is divided into three parts, having the like number of ſmall ſegments placed alternately on the outſide.

3. Pistillum conſiſts of a roundiſh germen, a ſhort, awl-ſhaped ſtyle, and an acute ſtigma.

4. Pericarpium is an oval berry, containing one cell.

5. Semen. The ſeed is one, oſſeous, nearly oval, and marked with a longitudinal furrow.

CHAP. CLXXVIII.

PHYLLANTHUS, SEA-SIDE LAUREL.

The ſpecies of *Phyllanthus*, being natives of the warmer parts of the world, require their ſtation in our ſtoves to ſhew themſelves in tolerable perfection. Some of them are Shrubby plants, and others are Herbaceous; and, what is wonderful, the flowers, contrary to the courſe of nature in the vegetable world, burſt forth from the ſides, or ſome part or other of the leaves: They are male and female flowers on the ſame plant; and their ſingularity, more than beauty, demands our attention. The ſpecies then are,

Species.

1. The Long Floriferous-leaved Shrub *Phyllanthus*, or Sea-ſide Laurel.
2. The Pinnated Floriferous-leaved Shrub *Phyllanthus.*
3. The Broad-leaved Tree *Phyllanthus.*
4. The Pinnated Floriferous-leaved Herbaceous Erect *Phyllanthus.*
5. The Pinnated Floriferous-leaved Procumbent *Phyllanthus.*

Long Floriferous-leaved Shrub Phyllanthus deſcribed.

1. Long Floriferous-leaved Shrub *Phyllanthus.* This plant will grow to about twelve feet high. The trunk is firm, and covered with a brown bark; the younger branches are of a grey colour, and extend themſelves in a pleaſing, irregular manner. The leaves are long and narrow; their figure is lanceolate; and they grow without order on the branches; they are ſmooth, and of a thick conſiſtence, ſix or ſeven inches in length, and about half an inch in breadth; their edges are indented; and it is from theſe indentings that the flowers are produced. Each flower is trifling, conſidered ſingly by itſelf. Being thus diſpoſed, they form a kind of border to the leaf, ſo that the whole leaf repreſents a flower of a very ſtrange and ſingular conſtruction. The flowers are of a lively purple colour, and the leaves continue green all the year; and both conſpire to render this plant a valuable ſpecies.

Pinnated Floriferous-leaved Shrub Phyllanthus deſcribed.

2. Pinnated Floriferous-leaved Shrub *Phyllanthus.* This plant hath a woody ſtem covered with a brown bark, and divides into ſeveral branches. The leaves are its greateſt ornament; they are finely pinnated, and very beautiful. From theſe the flowers are produced, and they are ſucceeded by a baccated fruit.

Broad-leaved Tree Phyllanthus deſcribed.

3. Broad-leaved Tree *Phyllanthus.* This plant will often grow to be a large tree, eighteen or twenty feet in height, and divides itſelf into ſeveral branches. The leaves are oval, obtuſe, and broad; their edges are entire; and they are placed alternately on the branches. The flowers are produced ſingly from the under parts of the branches on ſhort pedicles; but they are ſmall, and of very little figure.

Pinnated Floriferous leaved Herbaceous Erect Phyllanthus deſcribed.

4. Pinnated Floriferous-leaved Herbaceous Erect *Phyllanthus.* This is a ſmall, herbaceous plant, ſeldom growing above a foot in height. The ſtalk is upright, ſmooth, and branching. The leaves are pinnated, and placed alternately; the folioles are of an oval figure, and alſo placed alternately on the mid-rib. The flowers are produced from the under-ſide of the mid-rib, on ſhort footſtalks; they extend the whole length of it, and hang down; they are whitiſh, will be in blow in July, and their ſeeds ripen in Auguſt.

Pinnated Floriferous-leaved Shrub Phyllanthus deſcribed.

5. Pinnated Floriferous-leaved Procumbent *Phyllanthus* hath an herbaceous, downy ſtalk that lies on the ground. The leaves are finely pinnated, and grow erect: The folioles are ſmall; and the flowers are produced along the mid-rib; they are ſmall, ſit cloſe, will be in blow in July, and are often ſucceeded by good ſeeds early in September.

Culture.

The three Shrubby ſorts are propagated in great plenty by ſeeds, when good ones can be procured; but this is very ſeldom to be done. To have them in perfection, we muſt get them from the places where they naturally grow; and unleſs the ſeeds are ſown almoſt as ſoon as they are ripe, very few of them will ſucceed: And as there are many months before we receive them, it is no wonder that our expectations of a good crop of theſe plants from ſeeds have often proved abortive. When you have the ſeeds, however, ſow them immediately in pots, and plunge them up to the rims in the bed. If you find any of the plants come up, give them the ſtricteſt care, water, and attendance, and remove them into larger pots as they increaſe in ſize. Plants thus raiſed will become, by far, finer and taller-growing trees than thoſe raiſed any other way.

Theſe plants are eaſily propagated by layers. The operation is to be on the young ſhoots; and for this purpoſe, place ſome treſſels round the plant to ſupport the pots to a proper height, filled with rich, freſh, ſandy earth. Slit the tender branches at the joint with a ſharp pen-knife, as is practiſed for the laying of Carnations, and carefully preſs it down into the mould of the pot. After that, fix it down with proper pegs, and cover it up, putting a bit of chip, or ſomething in the ſlit to keep the mouth open: They will readily take root; and after you perceive that, they ſhould be ſeparated from the mother-plant. As ſoon as this is done, the layers in the pots ſhould be plunged up to the rims in the bark bed, and they muſt have regular and frequent waterings; and as the plants grow too big for the pots, they ſhould be removed into larger. In the hotteſt months they may be ſet out among the Green-houſe plants, and managed accordingly; but be ſure not to let it be too long before they reſume their place in the Stove.

The other ſorts are eaſily propagated. Sow the ſeeds on a good hotbed in the ſpring; and when the plants are fit to remove, let each be ſet in a ſeparate pot, preſerving a good ball of earth to the root: After that remove them to the ſtove, and let them have the common care and management of tender plants. They ſhed their ſeeds ſoon after they are ripe; ſo that you muſt be careful to attend the time of gathering, that they be not loſt.

Titles.

Epiphyllanthus.

1. Long Floriferous-leaved Shrub *Phyllanthus* is titled, *Phyllanthus foliis lanceolatis ſerratis: crenis floriferis.* Plukenet calls it, *Filicifolia hemionitidi affinis Americana epiphyllanthos, anguſtiori & longiori folio, ramoſa cauleſcens*; and Commeline and Cateſby, *Phyllanthus, Americana planta, flores è ſingulis foliorum crenis proferens.* It grows naturally in Surinam, Jamaica, Carolina, and Porto Rico.

Emblica.

2. Pinnated Floriferous-leaved Shrub *Phyllanthus* is titled, *Phyllanthus foliis pinnatis floriferis, caule arboreo, fructu baccato.* Caſpar Bauhine and Rumphius term it, *Myrobalanus Emblica*; Van Royen calls it, *Nellika*; and Van Rheede, *Nellicamarum.* It grows naturally in India.

Grandifolia.

3. Broad-leaved Tree *Phyllanthus.* This is titled, *Phyllanthus caule arboreo, foliis ovatis obtuſis integerrimis.* It grows naturally in America.

Niruri.

4. Pinnated Floriferous-leaved Herbaceous Erect *Phyllanthus* is titled, *Phyllanthus foliis pinnatis floriferis, floribus pedunculatis, caule herbaceo erecto.* In the *Hort. Cliff.* it is called, *Phyllanthus foliis alternis alternatim pinnatis, floribus dependentibus ex alis foliorum.* Burman calls it, *Urinaria Indica erecta vulgaris*; Rumphius, *Herba mæroris alba*; Plukenet, *Fruticulus capſularis hexapetalos, caſſiæ poetarum foliis brevioribus*; and Martin, *Niruri Barbadenſe, folio ovali ſubtus glauco, petiolis florum breviſſimis.* It grows naturally in the Indies.

Urinaria.

5. Pinnated Floriferous-leaved Procumbent *Phyllanthus* is titled, *Phyllanthus foliis pinnatis floriferis, floribus ſeſſilibus, caule herbaceo procumbente.* Plukenet calls it, *Fruticulus capſularis hexapetalos, brevioribus foliis & anguſtis*; Rumphius, *Herba mæroris rubra*; and Rheede, *Tſjerukirganeli.* It grows naturally in India.

Claſs and Order in the Linnæan Syſtem.

Phyllanthus is of the Claſs and Order *Monoecia Triandria*; and the characters are,

The characters.

I. Male Flowers.

1. CALYX is a monophyllous, campanulated, coloured, permanent perianthium, divided into ſix oval, ſpreading, obtuſe ſegments.

2. COROLLA. There is none; tho' ſome will have it, that the before deſcribed calyx is the corolla, and the real calyx is wanting.

3. STAMINA are three filaments ſhorter than the calyx, that join at their baſe, but ſpread aſunder higher, and have didymous antheræ.

II. Female Flowers.

1. CALYX is the ſame as in the male.

2. COROLLA. There is none. The nectarium conſiſts of twelve regular points ſurrounding the germen.

3. PISTILLUM conſiſts of a roundiſh, obtuſe, three-cornered germen, and three ſpreading, ſemibifid ſtyles, with obtuſe ſtigmas.

4. PERICARPIUM is a roundiſh, three-furrowed capſule of three cells.

5. SEMEN. The ſeed is ſingle, and roundiſh.

CHAP. CLXXIX.

PHYSALIS, ALKEKENGI, or WINTER CHERRY.

Species.

THERE remain for the Stove only two ſpecies, called,

1. Winter Cherry of Curaſſao.
2. Tree *Alkekengi*, or Winter Cherry.

Winter Cherry of Curaſſao deſcribed.

1. Winter Cherry of Curaſſao. The ſtalk is woody, grows to two or three feet high, and ſends forth ſeveral branches, which are covered with a ſoft, thick down. The leaves are oval, broad, entire, downy, and grow alternately on ſhort footſtalks. The flowers come out from the ſides of the branches near the upper parts, ſitting cloſe, and having no footſtalks; they are ſmall, of a yellow colour, and appear in July and Auguſt; but are not ſucceeded by berries in our gardens.

Tree Alkekengi, or Winter Cherry deſcribed

2. Tree *Alkekengi*, or Winter Cherry. The ſtalk is woody, grows to ten or twelve feet high,

and divides near the top into ſeveral ſmall, hairy branches, of a greyiſh colour. The leaves are oval, oblong, ſpear-ſhaped, hairy, and of a pale-green colour; the lower ones are placed alternately, but thoſe near the ends of the branches grow oppoſite to each other. The flowers come out, one or two together, from the ſides of the branches on ſhort, nodding footſtalks; they are ſmall, and of a bad-yellow colour, having purpliſh bottoms; they appear in June and July, and are ſometimes ſucceeded by round, red berries, ſituated in dark purple-coloured bladders, which ſeldom come to perfection in England.

Culture. Both theſe ſorts are eaſily propagated by planting the cuttings in pots filled with light, rich earth; they muſt be then plunged into a hotbed, and be watered and ſhaded until they have taken root. When this is effected, they muſt be hardened by degrees to the open air, and afterwards be ſet in a warm, well-ſheltered place, where they may remain, with due watering in dry weather, until the end of September, and be then removed into the moſt temperate ſtove; for a ſmall degree of artificial heat only in winter is ſufficient for theſe ſhrubs to ſhew themſelves in perfection.

They may alſo be raiſed by ſeeds, if good ſeeds can be obtained, in the manner of the Green-houſe ſpecies; to which, to avoid repetition, the reader is referred.

Titles. 1. Curaſſao Winter Cherry is titled, *Phyſalis caule fruticoſo, foliis ovatis tomentoſis.* In the *Hort. Cliff.* it is termed, *Phyſalis caule perenni, foliis ovatis ſolitariis, ramis annotinis ſimpliciſſimis.* Curaſsa-vica Moriſon calls it, *Solanum veſicarium Curaſſavicum, ſolano antiquorum ſimile, foliis origani ſubincanis.* It grows naturally at Curaſſao.

2. Tree *Alkekengi* is titled, *Phyſalis caule fruticoſo, foliis ovatis piloſis, floribus ſubſolitariis, corollis revolutis.* Arbores-cens In Miller's Dictionary it is termed, *Phyſalis foliis ovato-lanceolatis integerrimis oppoſitis, caule fruticoſo.* It grows naturally at Campeachy.

C H A P. CLXXX.

PIPER, PEPPER.

Species. Of this genus are,

1. Black Pepper.
2. Betle Pepper, or Baſtard Pepper.
3. Siriboa Pepper.
4. Long Pepper.
5. Rough-leaved Jamaica Pepper.
6. Shrubby Plantain-leaved Pepper.
7. Reticulated-leaved Pepper.
8. Hooked Jamaica Pepper.
9. Obtuſe-leaved Pepper.
10. Broad-leaved Pepper.

Black 1. Black Pepper. The ſtalks are numerous, jointed, ligneous, lie on the ground unleſs ſupported, and ſtrike root at the joints. The leaves are large, ſmooth, oval, have ſix or ſeven longitudinal ribs, and grow alternately at the joints on ſimple footſtalks. The flowers come out in ſpikes from the ſides of the branches, oppoſite to the leaves. They are very ſmall, ſit cloſe to the ſtalks, and are ſucceeded by the fruit, which is the Common Black Pepper of the ſhops. There is a variety of it with white fruit.

Betle, 2. Betle Pepper. The ſtalks are woody, jointed, weak, and climbing. The leaves are oval, ſomewhat oblong, ſharp-pointed, have about ſeven longitudinal ribs, and grow ſingly at the joints, on bidentated footſtalks. The flowers are produced from the ſides of the branches in ſmall, looſe ſpikes; and they are ſucceeded by roundiſh fruit, hot and biting, but nevertheleſs agreeable to the taſte.

Siriboa, 3. Siriboa Pepper. The ſtalks are ligneous, hollow, jointed, branching, and about four feet high. The leaves are large, heart-ſhaped, acute, have about ſeven ribs on their under-ſide, and grow ſingly at the joints. The flowers come out in ſlender ſpikes from the ſides of the branches; they are ſmall, but cloſely arranged in the ſpike; they are of a green colour, and the fruit which ſucceeds them is very ſmall.

Long, 4. Long Pepper. The ſtalks are woody, branching, and climbing. The leaves are large, heart-ſhaped, have about ſeven conſpicuous ribs, and grow alternately on ſhort footſtalks. The flowers are produced in ſpikes from the ſides of the branches, oppoſite to the leaves; they are ſmall, and are ſucceeded by a blackiſh fruit, which, though hotter, is nevertheleſs ſweeter and more agreeable to the taſte than the Common Black Pepper.

Rough-leaved Jamaica, 5. Rough-leaved Jamaica Pepper. The ſtalk is woody, jointed, crooked, full of pith, branching, and twelve or fourteen feet high. The leaves are rather ſmall, ſpear-ſhaped, oval, rough, and have five longitudinal nerves. The flowers come out in ſlender ſpikes from the ends and ſides of the branches; they are very ſmall, and are ſucceeded by a ſmall, round, hot pepper.

Shrubby Plantain-leaved, 6. Shrubby Plantain-leaved Pepper. The ſtalk is woody, jointed, branching, weak, and full of pith. The leaves are heart-ſhaped, full of ſmall veins on their upper-ſide, and underneath are poſſeſſed of nine ſtrong nerves. The flowers come out in ſlender ſpikes from the ſides of the branches, oppoſite the leaves; they are ſmall and greeniſh, and are ſucceeded by a ſmall fruit, which is at firſt green, and blackiſh when ripe.

Reticulated-leaved, 7. Reticulated-leaved Pepper. This hath a ſhrubby, pithy, branching ſtalk, about ſix or eight feet high. The leaves are heart-ſhaped, have five longitudinal nerves, and are elegantly reticulated, netted, or veined, on their upper ſide. The flowers are produced in ſlender ſpikes along the ſides of the branches, oppoſite to the leaves; they are ſmall and herbaceous, and the fruit is ſmall.

and Hooked Jamaica Pepper deſcribed. 8. Hooked Jamaica Pepper. The ſtalks are numerous, hollow, jointed, and five or ſix feet high. The leaves are large, oval, ſpear-ſhaped, rough, and nervous, the nerves running alternately from the mid-rib, and of a pale-green colour. The flowers are produced from the ſides of the branches, oppoſite to the leaves, in long, ſlender, incurved ſpikes; they are ſmall, herbaceous, and very cloſely arranged in the ſpike.

Obtuſe-leaved,

9. Obtuſe-leaved Pepper. The ſtalks of this plant are thick, ſucculent, jointed, about a foot high, and divide into many branches, which ſpread themſelves on the ground, and ſtrike root at the joints. The leaves are without nerves, roundiſh, thick, ſucculent, ſmooth, and entire. The flowers come out from the ends of the branches in long, ſtraight ſpikes, and are elevated on ſucculent footſtalks; they are extremely minute, and appear great part of the year, but are ſeldom ſucceeded by ſeeds in theſe parts.

and Broad-leaved Pepper deſcribed.

10. Broad-leaved Pepper. The ſtalk is thick, ſpongy, fourteen or fifteen feet high, and divides into many branches, which are jointed, and full of pith. The leaves are nearly round, peltated, heart-ſhaped at the baſe, and almoſt a foot broad. The flowers come out from the ends and ſides of the branches in umbellated ſpikes; they are very ſmall, and are ſeldom ſucceeded by fruit in theſe parts.

Culture.

Theſe plants are propagated by laying down their branches in pots filled with light, rich earth; theſe will readily ſtrike root at the joints, when they may be freed from the old plants, and be plunged up to the rims in the bark-bed of the warmeſt ſtove, where they muſt meet with all the care and management of tender plants.

They will alſo grow by cuttings. Theſe muſt be planted in pots filled with light, rich earth; be plunged up to the rims in the bark-bed; be ſhaded and watered until they have taken root; and after that they muſt be managed as the layers.

They are alſo encreaſed by ſeeds; and by this way the beſt plants are frequently obtained. The ſeeds muſt be ſown in a hot-bed early in the ſpring; and the plants, when they come up, muſt be managed like the Annuals of this ſpecies already treated of, until the beginning of the autumn, when they muſt be taken into the warmeſt ſtove, and meet with treatment ſuitable to tender plants.

Titles.

Nigrum.

1. Black Pepper is titled, *Piper foliis ovatis ſubſeptemnerviis glabris petiolis ſimpliciſſimis.* Caſpar Bauhine calls it, *Piper rotundum nigrum*; and Rheede, *Malago Codi.* It grows naturally in India.

Betle.

2. Betle, or Baſtard Pepper, is titled, *Piper foliis ovatis oblongiuſculis acuminatis ſeptinerviis, petiolis bidentatis.* Burman calls it, *Piper qui ſaururus foliis ſeptinerviis oblongo-acuminatis*; and Rheede, *Betela Codi.* It grows naturally in India.

Siriboa.

3. Siriboa Pepper is titled, *Piper foliis cordatis ſubſeptinerviis venoſis.* Rumphius calls it, *Siriboa.* It grows naturally in India.

Longum.

4. Long Pepper is titled, *Piper foliis cordatis petiolatis ſeſſilibuſque.* Caſpar Bauhine calls it, *Piper longum Orientale*; Rumphius, *Piper longum*; and Plukenet, *Piper longum, piſtolochiæ foliis abſque pediculis, Maderaſpatanum.* It grows naturally in India.

Amalago.

5. Rough-leaved Jamaica Pepper is titled, *Piper foliis lanceolato-ovatis quinquenerviis rugoſis.* Sloane calls it, *Piper longum arboreum altius, folio nervoſo minore, ſpicâ gracili & breviore*; and Plukenet, *Piper frutex, ſpicâ longâ gracili.* It grows naturally in Jamaica.

Decuma=num.

6. Shrubby Plantain-leaved Pepper is titled, *Piper foliis cordatis novem-nerviis reticulatis.* Plumier calls it, *Saururus fruteſcens foliis plantagineis, fructu breviori*; and Rumphius, *Sirum decumanum.* It grows naturally in both the Indies.

Reticula=tum.

7. Reticulated-leaved Pepper is titled, *Piper foliis cordatis ſeptem-nerviis reticulatis.* Plumier calls it, *Saururus botryoides major arboreſcens, foliis plantagineis.* It is a native of Martinico and the Braſils.

Aduncum.

8. Hooked Jamaica Pepper is titled, *Piper foliis ovato-lanceolatis: nervis alternis, ſpicis uncinatis* Sloane calls it, *Piper longum, folio nervoſo pallidè viridi humilius.* In the *Hort. Cliff.* it is termed, *Saururus foliis ovato-lanceolatis: nervis alternis.* Plumier calls it, *Saururus arboreſcens, fructu adunco.* It grows naturally in Jamaica.

Obtusi=folium.

9. Obtuſe-leaved Pepper is titled, *Piper foliis obovatis enerviis.* Plumier calls it, *Saururus humilis, folio carnoſo ſubrotundo.* It grows naturally in the Weſt Indies.

Peltatum.

10. Broad-leaved Pepper is titled, *Piper foliis peltatis orbiculato-cordatis obtuſis repandis, ſpicis umbellatis.* Plumier calls it, *Saururus arboreſcens, foliis amplis rotundis & umbilicatis*; and Rumphius, *Lomba.* It inhabits both the Indies.

⁂

CHAP. CLXXXI.

PISCIDIA.

THIS genus, at preſent, has only two ſpecies that we know of, viz.

Species.

1. Coral *Piſcidia.*
2. Carthaginian *Piſcidia.*

Coral

1. Coral *Piſcidia.* The ſtem is robuſt, divides into many brown, ſpotted branches, and grows to be thirty or forty feet high. The leaves are pinnated in the manner of the Aſh-tree; the pinnæ are oval, ſmooth on their upper ſide, veined underneath, and conſiſt of four or five pair, terminated by an odd one. The flowers come out in large bunches from the ends and ſides of the branches, are ſmall, and of a roſe colour; but appear rarely, and are not ſucceeded by pods in England.

and Carthaginian Piſcidia deſcribed.

2. Carthaginian *Piſcidia.* The ſtem is woody, branching, and grows to upwards of twenty feet in height. The leaves are pinnated, and the folioles are oboval, numerous, firm, and ſmooth. The flowers are produced in cluſters from the ends and ſides of the branches, but rarely appear; and the ſeeds do not ripen in England.

Culture.

Theſe plants are raiſed by ſeeds and cuttings, in the ſame manner as the Coral Trees, and their after-management is ſimilar to that of thoſe plants.

Titles.

Erithryna.

1. The firſt ſpecies is titled, *Piſcidia foliolis ovatis.* In the former edition of the *Species Plantarum* it is termed, *Erythrina foliis pinnatis, leguminibus membranaceo-tetragonis.* Brown calls it, *Ichthyometbia foliis pinnatis ovatis, racemis terminalibus, ſiliquis quadrialatis*; Sloane, *Coral arbor polyphylla non ſpinoſa, fraxini folio, ſiliquâ alis foliaceis extantibus rotæ molendinariæ fluviatilis auctâ*; and Plumier, *Pſeudo-Acacia ſiliquis alatis.* It grows naturally in America.

Carthagi=nensis

2. The ſecond ſpecies is titled, *Piſcidia foliolis*

lis obovatis. Plukenet calls it, *Phaſeolis accedens Coral arbor polyphyllos, foliis durioribus non ſpinoſa.* It grows naturally in America.

Claſs and Order in the Linnæan Syſtem. The characters.

Piſcidia is of the Claſs and Order *Diadelphia Decandria*; and the characters are,

1. Calyx is a monophyllous, bell-ſhaped perianthium, indented in five parts at the top.

2. Corolla is papilionaceous.

The vexillum is riſing, and emarginated.

The alæ are the ſame length as the vexillum.

The carina is lunated, and riſing.

3. Stamina are ten filaments growing together, having oblong, incumbent antheræ.

4. Pistillum conſiſts of a pedicellated, linear, compreſſed germen, a filiforme, riſing ſtyle, and an acute ſtigma.

5. Pericarpium is a pedicellated, linear pod, having four membranaceous, longitudinal angles.

6. Semina. The ſeeds are few, and nearly cylindrical.

CHAP. CLXXXII.

PISONIA, FINGRIGO.

THERE are two ſpecies of this genus in the Stove, viz.

Species.

1. Prickly *Piſonia*, or Fingrigo.
2. Smooth *Piſonia*.

Prickly Piſonia, or Fingrigo deſcribed.

1. Prickly *Piſonia*, or Fingrigo. The ſtem is woody, thick, ſends out ſeveral weak branches, by pairs oppoſite, that are armed with crooked, ſhort, ſtrong ſpines, and the tree grows to be twelve or fourteen feet high. The leaves are oval, ſtiff, and grow oppoſite on ſhort footſtalks. The flowers are produced in looſe bunches from the ſides of the branches, are of a greeniſh-yellow colour; and the females are ſucceeded by angular, oval capſules, containing the ſeeds.

Smooth Piſonia deſcribed.

2. Smooth *Piſonia*. The ſtem is woody, branching, and unarmed with ſpines. The leaves are oblong, pointed, and grow on ſhort footſtalks. The flowers are produced in cluſters from the ſides of the branches; they are of a greeniſh-yellow colour, and the females are ſucceeded by berries, in each of which is lodged one ſmooth, oblong ſeed.

Culture.

Theſe plants are propagated by ſowing the ſeeds in pots filled with light, rich earth, and plunging them into a hot-bed of tanner's bark. When the plants are about three or four inches high, they muſt be planted ſeparately in pots filled with the like kind of good mould, muſt be again plunged into the bark-bed, and be watered and kept ſhaded until they have taken root. When they have commenced a good growing ſtate, and the weather proves warm, they muſt have plenty of freſh air, and regular watering muſt be afforded them all ſummer; and in the winter they muſt be taken into a temperate bark-ſtove, where they muſt conſtantly remain under ſuch tender management as the like kind of plants require; and they will ſucceed very well here, through the aſſiſtance of a moderate degree of artificial heat.

Titles.

1. The firſt ſpecies is titled, *Piſonia ſpinis axillaribus patentiſſimis.* In the *Hort. Cliff.* it is termed ſimply, *Piſonia.* Brown calls it, *Piſonia aſſurgens, ſarmento valido, foliis ovatis utrinque productis, ſpinis validis recurvis, racemis lateralibus*; Plumier, *Piſonia aculeata, fructu glutinoſo et racemoſo*; Plukenet, *Rhamnus, ſive Lycium Fingego Jamaicenſibus dictum*; and Sloane, *Paliuro affinis arbor ſpinoſa, flore herbaceo pentapetaloide, fructu ſicco nudo canaliculato lappaceo.* It grows naturally in moſt of the Weſt India Iſlands. Aculea-ta.

2. The ſecond ſpecies is titled, *Piſonia inermis.* Amman calls it, *Piſonia Malabarica non ſpinoſa*; and Rheede, *Katu-kava-walli.* It grows naturally in India. Mitis.

Claſs and Order in the Linnæan Syſtem. The characters.

Piſonia is of the Claſs and Order *Polygamia Dioecia*; and the characters are,

I. Male.

1. Calyx. There is none.

2. Corolla is infundibuliforme; the tube is ſhort; the limb widens gradually, and is cut into five acute, ſpreading ſegments.

3. Stamina are five or ſix awl-ſhaped filaments, with roundiſh, didymous antheræ.

4. Pistillum conſiſts of an oblong germen, a ſhort ſtyle, and a penicilliforme ſtigma.

II. Female.

1. Calyx. The ſame as in the male.

2. Corolla. The ſame as in the male.

3. Pistillum conſiſts of an oblong germen, a ſimple, cylindrical, erect ſtyle longer than the corolla, and bifid ſtigmas.

4. Pericarpium is an oval, pentangular capſule, containing one cell, or elſe a berry.

5. Semen. The ſeed is ſingle, ſmooth, and oblong.

CHAP. CLXXXIII.

PLINIA.

Species.

WE have only one ſpecies of this genus at preſent in the Stove, named *Plinia.*

The plant deſcribed.

This riſes with a ſtrong, woody, branching ſtem to the height of twenty feet, or upwards. The leaves are abruptly pinnated, and conſiſt of about twelve oval, ſpear-ſhaped, undivided folioles. The flowers are produced from the ſides of the branches, where they ſit cloſe, having no footſtalks; and are ſucceeded by large, globular, ſtriated berries, which are of a fine ſaffron colour, and an agreeable aromatic odour, when ripe.

Culture.

This ſpecies is propagated by ſeeds procured from abroad. They muſt be ſown in pots filled with rich, light, garden mould, and plunged into a hotbed of tanner's bark. When the plants come up, the uſual care due to tender ſeedlings muſt accompany them until they are four inches high; then they muſt be planted ſeparately in pots filled with the like kind of light, rich earth, and plunged into a hotbed of tanner's bark; they muſt be watered and ſhaded until they have taken root; and afterwards muſt, by degrees, be uſed to a large ſhare of air. In the autumn they muſt be taken into a good bark-ſtove, where they muſt conſtantly remain, under the niceſt management art can ſuggeſt.

Titles.
Pinnata

There being no other ſpecies of this genus, it is termed ſimply, *Plinia.* Plumier calls it, *Plinia fructu croceo odorato.* It grows naturally in America.

Claſs and Order in the Linnæan Syſtem.
The characters.

Plinia is of the Claſs and Order *Polyandria Monogynia*; and the characters are,

1. Calyx is a ſmall, monophyllous, plane, acute perianthium.

2. Corolla is one plane petal, divided into five oval, concave parts.

3. Stamina are numerous, capillary filaments the length of the corolla, having ſmall antheræ.

4. Pistillum conſiſts of a ſmall germen, an awl-ſhaped ſtyle longer than the ſtamina, and a ſimple ſtigma.

5. Pericarpium is a large, globular, ſulcated, ſtriated berry, containing one cell.

6. Semen. The ſeed is one, globular, large, and ſmooth.

CHAP. CLXXXIV.

PLUKENETIA.

Species.

THERE is only one ſpecies of this genus in the Stove, named, *Plukenetia.*

The plant deſcribed.

The ſtalk is tender, weak, branching, and twiſts about neighbouring trees or buſhes for ſupport. The leaves are heart-ſhaped, ſerrated, and grow on footſtalks. The flowers come out in looſe ſpikes at the ends and ſides of the branches. The male flowers are numerous at the tops of the ſtalks; and the females, which are much fewer in number, are below; and theſe are followed by depreſſed, quadrangular capſules, containing the ſeeds.

Culture.

This plant is propagated by ſowing the ſeeds in a hotbed in the ſpring. When the plants come up, ſufficient air muſt be allowed them to prevent their drawing weak, nor yet ſo much as to ſtarve them: When they are about four inches high, they muſt be potted ſeparately, and then plunged into a hotbed of tanner's bark, where they muſt be watered and ſhaded until they have taken root; afterwards they muſt have air and water according to the heat of the ſeaſon; and in the autumn muſt be taken into a temperate bark-ſtove, and managed like other tender, climbing plants.

Titles.
Volubilis.

There being no other ſpecies of this genus, it is termed ſimply, *Plukenetia.* Plumier calls it, *Plukenetia ſcandens, hederæ foliis ſerratis, fructu tetragono*; and Rumphius, *Sajor volubilis, fructibus corniculatis.* It grows naturally both in the Eaſt and Weſt Indies.

Claſs and Order in the Linnæan Syſtem.
The characters.

Plukenetia is of the Claſs and Order *Monoecia Monadelphia*; and the characters are,

I. Male Flowers.

1. Calyx. There is none.

2. Corolla conſiſts of four oval, patent petals.

3. Stamina are eight very ſhort filaments joined together, having erect, ſimple antheræ.

The nectariums are four bearded glands at the baſe of the ſtamina.

II. Females.

1. Calyx. There is none.

2. Corolla is the ſame as in the males.

3. Pistillum conſiſts of a quadrangular germen; a very long, filiforme, declining ſtyle; and a peltated ſtigma, divided into four obtuſe, plane ſegments, each having a mark or ſpot in the middle.

4. Pericarpium is a depreſſed, quadrangular capſule, containing four cells.

5. Semina. The ſeeds are ſingle, roundiſh, compreſſed, and ſomewhat pointed at one end.

CHAP. CLXXXV.

PLUMBAGO, LEAD-WORT.

THERE are three ſpecies of this genus which require the protection of a Stove in England, called,

Species.

1. Ceylon Lead-wort.
2. Red Indian Lead-wort.
3. Climbing Lead-wort.

Ceylon,

1. Ceylon Lead-wort. The root is moderately thick, juicy, and of intolerable acrimony. The ſtalks are very ſlender, ligneous, branching, and grow to four or five feet high. The leaves are oval, ſmooth, pointed, and grow alternately on ſhort footſtalks. The flowers are produced in ſpikes from the ends of the branches; they are of a white colour, appear at moſt ſeaſons of the year; and ſuch as ſhew themſelves early in the ſummer are generally ſucceeded by ripe ſeeds in the autumn.

and Red Indian Lead-wort deſcribed.

2. Red Indian Lead-wort. The ſtalks are ligneous, branching, and made ſingular with the ſwelling knees or joints placed at a certain diſtance from each other. The leaves are oval, ſmooth, ſhining, and grow on ſhort footſtalks.

The flowers come out in ſpikes from the ends of the branches; they are of a red colour, and, like the former, ſhew themſelves great part of the year.

Climbing Lead-wort deſcribed.

3. Climbing Lead-wort. The ſtalk is weak, woody, round, jointed, tortuous, grows to four or five feet high, and is covered with an elegant green and ſhining bark. The leaves are oval, ſmooth, ſhining, of a deep green colour, and grow on ſhort footſtalks. The flowers come out in ſpikes from the tops of the ſtalks and branches, having viſcous cups; they are of a white colour, and appear at different ſeaſons of the year.

Properties of the plant.

All theſe ſorts are of a hot, cauſtic nature, and are ſaid to be excellent for the cure of the tooth-ach.

Culture.

Theſe plants are raiſed by ſowing the ſeeds, in the ſpring, in pots filled with rich, light earth, and plunging them into a hotbed of tanner's bark. When the plants are fit to be removed, each ſhould be ſet in a ſeparate pot, and plunged into the hotbed as before: They muſt be ſhaded and duly watered at firſt; but, when they are in a good growing ſtate, they muſt have plenty of air and water, at leaſt three times a-week. In September they may be removed into the temperate ſtove, where they will thrive better than in a greater degree of heat, will exhibit their flowers in perfection, and produce ripe ſeeds for further increaſe.

Titles.

1. The firſt ſpecies is titled, *Plumbago foliis petiolatis ovatis glabris, caule filiformi.* Commeline calls it, *Lychnis Indica ſpicata, ocymaſtri foliis, fructibus lappaceis oblongis, radice urente.* It grows naturally in India.

Zeylanica.

2. The ſecond ſpecies is titled, *Plumbago foliis petiolatis ovatis glabris, caule geniculis gibboſis.* Burman calls it, *Plumbago Zeylanica folio ſplendente ocymaſtri, flore rubro*; and Rumphius, *Radix veſicatoria.* It inhabits India.

Rosea

3. The third ſpecies is titled, *Plumbago foliis petiolatis ovatis glabris, caule flexuoſo-ſcandente.* Moriſon calls it, *Plumbago Americana, viticulis longioribus ſempervirentibus*; and Sloane, *Dentellaria Lychnoides ſylvatica ſcandens, flore albo.* It grows naturally in South America.

Scandens

CHAP. CLXXXVI.

PLUMERIA, RED JESSAMINE.

At preſent we know of only three ſpecies that belong to this genus, viz.

Species.

1. Red *Plumeria.*
2. White *Plumeria.*
3. Obtuſe *Plumeria.*

Red,

1. Red *Plumeria.* The ſtem is thick, woody, ſucculent, branching, and, in the Weſt Indies, grows to be a tree of twenty feet in height. The leaves are large, oval, oblong, pointed, and grow on ſhort, biglandulous footſtalks. The flowers are produced from the ends and ſides of the branches in cluſters; they are large, of a fine red colour, and of a moſt exalted fragrance: They appear in July and Auguſt, but are not ſucceeded by ſeeds in England.

White,

2. White *Plumeria.* The ſtem is thick, woody, branching, ſucculent, tender, and grows to eight or ten feet high. The leaves are ſpear-ſhaped, long, narrow, acuminated, and their edges are rolled backward. The flowers are produced in bunches from the ends and ſides of the branches; they are of a white colour, and moſt fragrant odour. They uſually appear with us about July or Auguſt, but are not ſucceeded by ſeeds in England.

and Obtuſe Plumeria deſcribed.

3. Obtuſe *Plumeria.* The ſtem is thick, ligneous, branching, ſucculent, and grows to ten or twelve feet high. The leaves are oval, ſpear-ſhaped, ſhort, and obtuſe. The flowers are produced in cluſters from the ends and ſides of the branches; they are ſmall, but of a ſnow-white colour, and finely ſcented. They uſually appear in the ſummer, but are never ſucceeded by ſeeds in theſe parts.

Properties of the plant.

The ſtems, branches, and leaves of theſe ſpecies are replete with a milky juice of a very cauſtic nature. In the Weſt Indies they are cultivated for ornament near habitations, and for the agreeable fragrance of their flowers.

Culture.

Their ſituation in England is in the dry ſtove; and they are propagated by cuttings in any of the ſummer months. As the cuttings are ſucculent and full of juice, it is neceſſary to lay them in the ſtove two or three weeks, or perhaps more, that the wounded parts may ſkin over before they are planted; it being the property of moſt ſucculent cuttings to rot, if this precaution be not obſerved. When the baſe of each cutting therefore is ſkinned over, let them be planted in pots filled with common garden mould, with a mixture of one-fourth of drift ſand: Let them be then plunged into a hotbed of tanner's bark, be ſhaded, and ſparingly watered, and in a little time they will ſhew good ſigns of growth. When you perceive this, inure them by degrees to the open air; and about the end of September take them into the dry ſtove for their winter lodgings.

They are alſo raiſed by ſeeds; and, as the beſt plants are obtained this way, and the ſeeds are eaſily procured from Jamaica, where they naturally grow, it is the moſt eligible method of raiſing theſe plants. Having procured ſome freſh ſeeds therefore, let them be ſown in pots filled with the like kind of earth as above directed, and plunged into a hotbed of tanner's bark: When the plants are about three inches high, let them be potted ſeparately, be again plunged into the bark-bed, and ſlightly watered and kept ſhaded until they have taken root; after that they muſt have a large ſhare of air, and in autumn be taken into a temperate bark-ſtove, where they muſt be kept for two or three winters; and, when they become ſtrong plants, muſt be removed into the dry ſtove, and managed like the cuttings.

Titles.

1. The firſt ſpecies is titled, *Plumeria foliis ovato-oblongis, petiolis biglanduloſis.* Brown calls it, *Plumeria arboreſcens, ramulis craſſis, foliis oblongo-ovatis, petiolis biglanduloſis, floribus geminatis per ſpicas terminales*; Tournefort, *Plumeria flore roſeo odoratiſſimo*; Sloane, *Nerium arboreum, folio maximo obtuſiore, flore incarnato*; and Plukenet, *Clematis arborea Americana, laurinis ampliſſimis foliis, flore laccæ colore odoratiſſimo.* It grows naturally in Jamaica and Surinam.

Rubra.

Alba. 2. The ſecond ſpecies is titled, *Plumeria foliis lanceolatis revolutis, pedunculis ſupernè tuberoſis.* Commeline calls it, *Apocynum Americanum fruteſcens, longiſſimo folio, flore albo odoratiſſimo*; Tournefort, *Plumeria, flore niveo, foliis longis anguſtis et acuminatis*; and Sloane, *Nerium arboreum altiſſimum, folio anguſto, flore albo.* It grows naturally in Jamaica.

Obtusa 3. The third ſpecies is titled, *Plumeria foliis lanceolatis petiolatis obtuſis.* Tournefort calls it, *Plumeria flore niveo, foliis brevioribus obtuſis*; and Rumphius, *Flos convolutus.* It grows naturally in moſt of the warm parts of America.

Claſs and Order in the Linnæan Syſtem. The Characters.

Plumeria is of the Claſs and Order *Pentandria Monogynia*; and the characters are,

1. Calyx is a ſmall, obtuſe perianthium, divided into five parts.

2. Corolla is one funnel-ſhaped petal; the tube is long, and widens gradually to the top; the limb is divided into five oval, oblong, erect, ſpreading, oblique ſegments.

3. Stamina are five awl-ſhaped filaments ariſing from the middle of the tube, having connivent antheræ.

4. Pistillum conſiſts of an oblong, bifid germen, with ſcarce any ſtyle, but a double, acuminated ſtigma.

5. Pericarpium conſiſts of two long, acuminated, ventricoſe, nutant follicules, each being compoſed of one valve, and containing one cell

6. Semina. The ſeeds are numerous, oblong, imbricated, and inſerted into a large, oval membrane at the baſe.

* * *

CHAP. CLXXXVII.

POINCIANA, BARBADOES FLOWER-FENCE, or SPANISH CARNATION.

THERE are three diſtinct ſpecies of this genus in the Stove, viz.

Species.

1. The Fair *Poinciana*, or Double-ſpined Barbadoes Flower-fence.
2. Single-ſpined *Poinciana*.
3. Smooth, or Unarmed *Poinciana*.

The Fair,

1. The Fair *Poinciana*, or Double-ſpined Barbadoes Flower-fence. The ſtem is woody, upright, ſtraight, firm, branching, and grows to ten or twelve feet high. The ſpines are ſhort, ſtrong, crooked, and grow two together at a joint. The leaves are large, and compoſed of numerous, pinnated parts; the folioles, or ſmaller leaves, which help to compoſe the general leaf, conſiſt of four, five, or more pair of lobes arranged along the midrib; their form is oblong, broad, obtuſe, and they are of a good green colour. The flowers are produced in long, looſe ſpikes, or bunches, from the ends of the branches; they are large, and of a golden-yellow colour, variegated with a ſtill deeper yellow, or orange colour, and very fragrant. They uſually appear in the winter, though ſometimes they ſhew themſelves in the early part of the autumn; but they are not ſucceeded by ſeeds in England.

Single-ſpined,

2. Single-ſpined *Poinciana*. The ſtem is woody, upright, ſtraight, divides into many ſpreading branches, and grows to be ten or twelve feet high; the ſpines are ſhort, and grow ſingly at the joints. The leaves are compoſed of numerous parts, which are roundiſh, emarginated, and of a beautiful green colour. The flowers are produced from the ends of the branches, in looſe ſpikes; they are of a yellowiſh-purple colour, and appear about the ſame time with the former. There is a variety of this ſpecies with red flowers, ſtained with purple.

and ſmooth, or Unarmed Poinciana deſcribed.

3. Smooth, or Unarmed *Poinciana*. The ſtem is woody, upright, firm, branching, and unarmed with thorns. The leaves are bipinnated, the folioles being ſmall, oval, oblong, and entire. The flowers are produced in looſe ſpikes from the ends of the branches; they are large, have coriaceous cups, and very long filaments of a dark-purple colour. They appear here in the autumn, or early part of the winter, and are ſucceeded by large, compreſſed pods, containing the ſeeds, which do not ripen in England.

Culture.

All theſe plants are propagated from ſeeds procured from either of the Indies. They ſhould be ſown in pots filled with freſh earth, made light by a mixture of one-fourth of drift ſand, and plunged into a hotbed of tanner's bark. When the plants come up, the greateſt caution muſt be uſed not to draw them up too weak, nor yet admit more air than their tender natures will bear; and when they are about three inches high, they muſt be carefully ſhook out of the pots, and planted ſeparately in ſmall pots, filled with the like kind of light, freſh mould as before. They muſt be then plunged again into the hotbed, and be watered and kept ſhaded until they have taken root; but muſt have ſome free air granted them, or their ſtems will ſoon draw weak, and their leaves become of a bad colour. When they have filled theſe pots, they muſt be ſhifted into pots a ſize larger, and all ſummer frequent and due obſervance of watering muſt be afforded them; and this muſt be ever after obſerved: But they muſt have very little water in winter. In the autumn they muſt be taken into the warmeſt bark-ſtove, where they muſt conſtantly remain under the care and diſcipline of tender plants.

Titles.

1. The firſt ſpecies is titled, *Poinciana aculeis geminis.* Plukenet calls it, *Acacia Orientalis glorioſa, coluteæ foliis, ad genicula ſpinis gemellis aculeata*; Rheede, *Tsietti-mandaru.* It grows naturally in both the Eaſt and Weſt Indies. Pulcherrima.

2. The ſecond ſpecies is titled, *Poinciana aculeis ſolitariis, foliolis emarginatis.* Breynius calls it, *Frutex pavonius, criſtâ pavonis*; Plukenet, *Acacia glorioſa Jamaicenſis, foliis minoribus ſubrotundis, ſpinis ad genicula ſimplicibus, floribus flavo-purpureis*; and Rumphius, *Criſta pavonis.* It grows naturally in both the Indies. Bijuga.

3. The third ſpecies is titled, *Poinciana caule inermi.* In the *Hort. Cliff.* it is termed, *Poinciana foliis bipinnatis, foliolis ovato-oblongis, caule inermi.* It is a native of both the Indies. Elata.

Claſs and Order in the Linnæan
The characters.

Poinciana is of the Claſs and Order *Decandria Monogynia*; and the characters are,

1. Calyx is a perianthium compoſed of five looſe, oblong, concave, deciduous leaves, the lower leaf being longer than the reſt, and hanging downwards.

2. Corolla is pentapetalous and unequal; four of the petals are roundiſh, and nearly equal; but the fifth is larger than the reſt, deformed and crenated.

3. Stamina are ten extremely long, declining, ſetaceous filaments, with oblong, incumbent antheræ.

4. Pistillum conſiſts of a long, awl-ſhaped, declining germen, and a ſtyle the length of the ſtamina, with an obtuſe ſtigma.

5. Pericarpium is an oblong, compreſſed pod, having ſeveral tranſverſe partitions.

6. Semina. The ſeeds are many, compreſſed, plane, and nearly oval.

C H A P. CLXXXVIII.

PORTLANDIA.

Species.
The plant deſcribed.

THERE is only one ſpecies of this genus in the Stove, called, *Portlandia*.

The ſtalk is thick, woody, and branching. The leaves are large, oval, bright, gloſſy, and grow oppoſite to each other. The flowers are produced from the wings of the leaves along the upper parts of the branches; they are very large and beautiful, appear in the ſummer, and are ſucceeded by oval, pentangular capſules, containing the ſeeds.

Culture.

This ſpecies is raiſed by ſeeds ſown on a hotbed in the ſpring. When the plants are three or four inches high, they muſt be planted ſeparately in pots filled with light, rich earth; they muſt be then plunged into a hotbed of tanner's bark, and be watered and kept ſhaded at firſt, and afterwards muſt have more air according to the heat of the ſeaſon; in the autumn they muſt be taken into a good bark-ſtove, where they muſt conſtantly remain, under the care and diſcipline of tender plants.

Titles.
Grandi=flora.

There being no other ſpecies belonging to this genus, it is termed ſimply, *Portlandia*. Jacquin calls it, *Portlandia floribus pentandris*; and Brown, *Portlandia foliis majoribus, nitidis ovatis oppoſitis, floribus ampliſſimis*. It grows naturally in Jamaica.

Claſs and Order in the Linnæan Syſtem.
The characters.

Portlandia is of the Claſs and Order *Pentandria Monogynia*; and the characters are,

1. Calyx is a permanent perianthium, ſituated above the germen, and compoſed of five oblong, ſpear-ſhaped leaves.

2. Corolla is one petal; the tube is long, funnel-ſhaped, and ſwelling; the limb is ſhorter than the tube, and divided into five acute parts.

3. Stamina are five awl-ſhaped, declining filaments the length of the corolla, ariſing out of the bottom of the tube, having linear, erect antheræ, the length of the corolla.

4. Pistillum conſiſts of a roundiſh, pentagonal germen ſituated below the calyx, a ſimple ſtyle the length of the ſtamina, and an oblong, obtuſe ſtigma.

5. Pericarpium is an oboval, five-ſtriated, pentangular, retuſed capſule, formed of two valves, and containing two cells.

6. Semina. The ſeeds are many, roundiſh, compreſſed, and imbricated.

C H A P. CLXXXIX.

PROCKIA.

Species.
The plant deſcribed.

THERE is at preſent only one ſpecies of this genus in the Stove, named *Prockia*.

The ſtalk is woody, and ſends forth ſeveral ligneous, round, taper branches from the ſides. The leaves are oval, ſharp-pointed, ſerrated, ſmooth, and grow alternately on footſtalks. The flowers come out ſparingly at the ends of the branches; they have footſtalks, are placed alternately, attended by linear bracteæ, and are ſucceeded by pentangular berries, containing the ſeeds.

Culture.

This ſpecies is propagated by ſowing the ſeeds on a hotbed in the ſpring. When the plants are fit to remove, they muſt be planted ſeparately in pots, preſerving a ball of earth to each root; then they muſt be duly watered, and, in the heat of the day, ſhaded from the ſun: As the weather becomes warmer the glaſſes muſt be raiſed, and in very hot weather they may be wholly taken off in the day-time; but ſhould always be replaced in the evenings, leſt the plants ſhould ſuffer any check from damp, or unexpected cold in the night. During the ſummer, frequent waterings muſt be beſtowed upon them, and the quantity at a time muſt be regulated according to the heat of the ſeaſon, and the abſence of mild, refreſhing ſhowers. In the autumn they muſt be taken into a bark-ſtove, and managed like other tender plants.

Title.
Crucis.

There being no other ſpecies of this genus, it is named ſimply *Prockia*. It grows naturally in America.

Claſs and Order in the Linnæan Syſtem.
The characters.

Prockia is of the Claſs and Order *Polyandria Monogynia*; and the characters are,

1. Calyx is a perianthium, compoſed of three oval leaves.

2. Corolla. There is none.

3. Stamina are numerous, capillary filaments the length of the calyx, having roundiſh antheræ.

4. Pistillum conſiſts of a roundiſh, ſubpentangular germen, a filiforme ſtyle the length of the ſtamina, and an obtuſe ſtigma.

5. Pericarpium is a pentangular berry.

6. Semina. The ſeeds are many.

CHAP. CXC.

PSIDIUM, GUAJAVA, or BAY-PLUM.

THERE are two diſtinct ſpecies of this genus, viz.

Species.

1. Pyriferous *Pſidium.*
2. Pomiferous *Pſidium.*

Pyriferous 1. Pyriferous *Pſidium.* The ſtem is woody, thick, ſmooth, eighteen or twenty feet high, and divides into many quadrangular branches near the top. The leaves are oval, obtuſe-pointed, have a ſtrong, red mid-rib, veined, and grow oppoſite to each other on ſhort footſtalks. The flowers are produced ſingly on footſtalks from the wings of the leaves; they are large, and of a whitiſh colour, and are ſucceeded by a large, oblong fruit, as big as a moderate pear, and uſually of a reddiſh colour when ripe.

and Pomiferous Pſidium deſcribed. 2. Pomiferous *Pſidium* is a tree nearly of the ſame ſize with the preceding. The leaves are oblong, ſharp-pointed, have a ſtrong, white mid-rib, veined, are often waved on their edges, and grow on ſhort footſtalks. The flowers grow, three together, on a footſtalk ariſing from the wings of the leaves; they are of a white colour, and are ſucceeded by round fruit of different ſizes in the different varieties; ſome being as large as a moderate apple; others not bigger than a cherry, and of a white colour when ripe. The fruit of both theſe ſpecies are highly ſcented, eſculent, and aſtringent: The bark alſo of the root is aſtringent, and in the Weſt Indies is in much requeſt for that purpoſe.

Culture. Theſe plants are propagated by ſeeds, which ſhould be brought over in the fruit from the Weſt-Indies. They ſhould be ſown in pots filled with light, rich earth, and plunged up to the rims in a hotbed of tanner's bark. When the plants come up, they muſt be nurſed with the uſual care of tender ſeedlings, until they are three or four inches high, when they muſt be planted ſeparately in pots filled with the like kind of light, rich earth. They muſt be then again plunged into the bark bed, watered, and kept ſhaded at firſt, but muſt afterwards have plenty of air, eſpecially in hot weather. In the autumn they muſt be taken into a temperate bark ſtove; for they ſucceed very well with a moderate degree of artificial heat; and in this place they muſt conſtantly remain under ſimilar diſcipline with plants of the like nature.

Titles. 1. The firſt ſpecies is titled, *Pſidium foliis lineatis obtuſiuſculis, pedunculis unifloris.* In the *Hort. Cliff.* it is termed, *Pſidium caule quadrangulo.* Tew calls it, *Guajava foliorum angulis quadrangulis fructu oblongo*; Commeline, *Guajava alba dulcis*; Burman, *Guajavs fructu pallido dulci*; Rumphius, *Cujavus domeſtica*; and Rheede, *Pela.* It grows naturally both in the Eaſt and Weſt Indies.

Pyriferum.

2. The ſecond ſpecies is, *Pſidium foliis lineatis acuminatis, pedunculis trifloris.* Plukenet calls it, *Guajava alba acida, fructu rotundiore*; Caſpar Bauhine, *Guajabo pomifera Indica: pomis rotundis*; Rumphius, *Cujavus agreſtis*; and Rheede, *Malacca pela.* It grows naturally in both the Indies.

Pomiferum.

Claſs and Order in the Linnæan Syſtem. *Pſidium* is of the Claſs and Order *Icoſandria Monogynia*; and the characters are,

The characters.

1. **Calyx** is a monophyllous, bell-ſhaped perianthium, cut at the top into five oval ſegments.
2. **Corolla** conſiſts of five oval, concave, patent petals, inſerted in the calyx.
3. **Stamina** are numerous filaments, ſhorter than the corolla, and inſerted in the calyx, having ſmall antheræ.
4. **Pistillum** conſiſts of a roundiſh germen ſituated below the calyx, a very long, awl-ſhaped ſtyle, and a ſimple ſtigma.
5. **Pericarpium** is a very large, oval berry, crowned with the calyx, and containing one cell.
6. **Semina.** The ſeeds are numerous, ſmall, and nidulant.

* * *

CHAP. CXCI.

PSYCHOTRIA.

THERE are two ſpecies of this genus, called,

Species.

1. Shrubby *Pſychotria.*
2. Herbaceous *Pſychotria.*

Shrubby 1. Shrubby *Pſychotria.* The ſtalk is woody, thick, and branching. The leaves are ſpear-ſhaped, oval, broad, and attended with rigid, emarginated ſtipulæ. The flowers are produced from the upper parts of the branches, and are followed by roundiſh berries, each containing two ſeeds.

and Herbaceous Pſychotria deſcribed. 2. Herbaceous *Pſychotria.* The ſtalk is tender, herbaceous, lies on the ground, and ſtrikes root into the earth. The leaves are heart-ſhaped, roundiſh, and grow oppoſite to each other on footſtalks. The flowers come out ſparingly from the wings of the leaves; they are of a white colour, and ſucceeded by two-ſeeded berries, which are of a beautiful red or ſcarlet colour when ripe.

Culture. The ſecond ſort propagates itſelf very faſt by its ſtalks ſtriking root into the ground: Theſe being cut into lengths, preſerving a bit of root to each, potted ſeparately, and plunged into a hotbed of tanner's bark, will readily grow. They muſt be kept ſhaded whilſt they are in the hotbed, but muſt have much free air, and frequent waterings; and in the autumn, when they are taken into the ſtove, they ſhould be ſet in ſome ſhady part of it, and have frequent waterings, even in winter, eſpecially if the bed be kept up to a good degree of warmth. The firſt ſort may be increaſed by cuttings in the like manner: And both of them are to be raiſed from ſeeds ſown in pots filled with light, ſandy, but rich earth. Theſe muſt be plunged into a hotbed of tanner's bark, the better to bring them up; and when the plants are fit to remove, they muſt be potted ſeparately, and managed as the cuttings.

Titles. Asiatica. 1. The firſt ſpecies is titled, *Pſychotria ſtipulis emarginatis, foliis lanceolato-ovatis.* Brown calls it, *Pſychotrophum fruticoſum, foliis amplioribus ovatis, ſtipulis rigidis interpoſitis.* It grows naturally in Jamaica and in the Eaſt Indies.

Herbacea. 2. The ſecond ſpecies is titled, *Pſychotria caule repente, foliis cordatis petiolatis.* Brown calls it, *Pſychotrophum herbaceum repens ſylvaticum, foliis ſubrotundo-cordatis oppoſitis, floribus paucioribus alaribus, laciniis corollæ erecto-patentibus*; Barrelier, *Jaſminum inodorum repens, violæ foliis, fructu puniceo*; Sloane, *Violæ folio baccifera, flore albo pentapetaloide, fructu rubro diſpermo*; Moriſon, *Periclymeno accedens planta Indiæ, foliis periclymeni rotundioribus, fructu bipyreno*; and Rheede, *Karinte-kali.* It grows naturally in woods and ſhady places, in both the Eaſt and Weſt Indies.

Claſs and Order in the Linnæan Syſtem. *Pſychotria* is of the Claſs and Order *Pentandria Monogynia*; and the characters are,

The characters.

1. Calyx is a ſmall, permanent perianthium, indented in five parts at the brim, and ſituated above the germen.

2. Corolla is one hypocrateriforme petal. The tube is long, the limb is ſhort, and divided into five ſuboval, acute ſegments.

3. Stamina are five capillary filaments, with linear antheræ, which do not exceed the top of the tube.

4. Pistillum conſiſts of a germen ſituated below the calyx, a filiforme ſtyle, and a ſtigma divided into two thickiſh, obtuſe ſegments.

5. Pericarpium is a roundiſh berry, crowned with the calyx, and containing one cell.

6. Semina. The ſeeds are two, oval, convex and five-furrowed on one ſide, and plane on the other.

CHAP. CXCII.

PTELEA.

Species. THERE is one tender ſpecies of this genus, which is called, The Viſcous *Ptelea.*

The plant deſcribed. This is a moderately large-growing tree, having a ſtrong root, which ſends forth ſeveral ſtrong ſtems, that are as large as thoſe of our Hazle Nut-tree, and put forth many upright, brittle branches from the bottom to the top: Theſe are covered with a light-brown coloured bark, which often peels and falls off in the manner of that of the Common Birch-tree. The leaves are ſpear-ſhaped, entire, ſtiff, of a delightful pale-green colour, and are placed on ſhort footſtalks on the branches. The flowers are produced from the ends of the branches in ſhort bunches; they are of a greeniſh colour, and each is ſupported by its ſeparate ſlender footſtalk; the petals are channelled, and of a thickiſh ſubſtance; and the fruit that ſucceeds them is a three-celled capſule, having a broad leafy border; but the ſeeds rarely ripen in England. This ſpecies has been often ſhewn for the Tea-tree by Gardeners, to impoſe on the ignorant.

Culture. This plant is raiſed by ſowing the ſeeds, in the ſpring, in pots filled with light, ſandy, freſh earth, and plunging them up to the rims in a good hot-bed. When the plants come up, the greateſt nicety is to afford them a due proportion of air. If they have too much in that tender ſtate, it will kill them; if they have too little, they ſoon draw up weak, and hardly ever recover themſelves ſo as to make good trees. Water in moderate quantities muſt frequently be afforded them in their progreſs; and when they are fit to remove, each ſhould be ſet in a ſeparate pot, plunging them up to the rims in a hotbed made of tanner's bark; they muſt be ſhaded and watered until they have taken root, and after that hardened by degrees to the open air. When this is effected, the glaſſes may be wholly taken off; but it will not be adviſeable to take the pots out of the bed the firſt ſummer. In the autumn they muſt be placed in the temperate ſtove; in winter they muſt have little water; in ſummer they may be ſet abroad with other tender plants, bringing them always into the ſtove again in autumn; and this, except ſhifting them every year, or every other year, into larger pots, as they encreaſe in ſize, is all the trouble they will require.

Titles. Viscosa. This ſpecies is titled, *Ptelea foliis ſimplicibus.* In the *Hort. Cliff.* it is named, *Dodonæa.* Brown calls it, *Triopteris erecta fruticoſa, foliis oblongis acuminatis, ramulis gracilibus*; Sloane, *Aceri ſive Paliuro affinis, anguſto oblongo liguſtri folio, flore tetrapetalo herbaceo*; Rumphius, *Caryophyllaſter littoreus*; Burman, *Carpinus viſcoſa, ſalicis folio integro oblongo*; and Plukenet, *Arbuſcula viſcoſa, elæagni foliis latè-virentibus, Americana tricoccos.* It grows naturally in ſandy places in both the Indies.

CHAP. CXCIII.

QUISQUALIS.

WE know at preſent only of one ſpecies of this genus, called *Quiſqualis*.

The plant deſcribed. The ſtalk is woody, and ſends forth ſeveral round, taper branches, which are covered with a fine, ſoft, hoary bark. The leaves are heart-ſhaped, oval, entire, and grow oppoſite to each other on ſhort footſtalks. The flowers terminate the branches in ſpikes; and they alſo come out from the wings of the leaves, along the ſides of the branches, in ſpikes, growing oppoſite to each other on footſtalks; they are moderately large, having remarkable long tubes, are hoary on the outſide, and very ſingular; but they ſoon fall off, and each is ſucceeded by a dry, pentangular drupe, containing a roundiſh nut, which is the ſeed.

Culture. This plant is propagated by ſowing the ſeeds in the ſpring, in pots filled with light, rich earth, and plunging them into a hotbed of tanner's bark. When the plants are fit to remove, they muſt be potted ſeparately, and plunged again into the bark bed, obſerving to water and keep them ſhaded until they have taken root: Afterwards, they muſt be uſed by degrees to a conſiderable ſhare of air, and frequent watering, eſpecially in hot weather. In the autumn they muſt be taken into a temperate bark ſtove, and managed like other plants of that claſs.

Title. *Indica* There being no other ſpecies of this genus, it is named ſimply, *Quiſqualis*. It grows naturally in India.

Claſs and Order in the Linnæan Syſtem. The characters. *Quiſqualis* is of the Claſs and Order *Decandria Monogynia*; and the characters are,

1. Calyx is a very long, filiforme, tubular perianthium, cut into five ſpreading ſegments at the top.

2. Corolla conſiſts of five oblong, obtuſe, ſeſſile petals, inſerted into the mouth of the calyx, and larger than the limb of the calyx.

3. Stamina are ten ſetaceous filaments, inſerted into the mouth of the calyx, of which five are rather lower than the others, having antheræ which do not extend beyond the opening of the calyx.

4. Pistillum conſiſts of an oval germen, a filiforme ſtyle longer than the ſtamina, and a broad, obtuſe ſtigma.

5. Pericarpium is a dry, pentangular drupe.

6. Semen is a roundiſh nut.

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CHAP. CXCIV.

RANDIA.

Species. THIS genus conſiſts of two ſpecies, called,

1. Prickly *Randia*.
2. Smooth *Randia*.

Prickly 1. Prickly *Randia*. The ſtem is woody, of a whitiſh colour, grows to eight or ten feet high, and ſends out branches oppoſite by pairs, which are armed at each joint with two ſhort ſpines placed oppoſite to each other. The leaves are roundiſh, of a ſhining-green colour, and grow oppoſite on ſhort footſtalks. The flowers are produced ſingly from the wings of the leaves; they are of a white colour, and are ſucceeded by oval berries, as large as a moderate Gooſeberry, containing the ſeeds.

and Smooth Randia deſcribed. 2. Smooth *Randia*. The ſtem is woody, branching, grows to eight or ten feet high, and the branches have few or no ſpines. The leaves are oval, oblong, and grow on ſhort footſtalks. The flowers are produced along the ſides of the branches; they are of a white colour, and are ſucceeded by oval berries like the former.

Culture. Theſe plants are propagated by ſowing the ſeeds in the ſpring, in pots filled with rich earth, and plunging them into a hotbed of tanner's bark. If the ſeeds are good they will readily come up, when a due admiſſion of air muſt be granted the plants, and frequent ſprinklings with water, to prevent their drawing up too weak. When the plants are about three or four inches high, they muſt be potted ſeparately, and be again plunged into the hotbed, where they muſt be watered and kept ſhaded until they have taken root. They muſt afterwards be hardened by degrees to the air, and in the autumn be taken into a temperate bark ſtove; for they require only a moderate degree of artificial heat to keep them thriving in this country. When they become woody and ſtrong plants, they may be ſet abroad for two or three months in the hotteſt part of the ſummer; but if they are continued in the ſtove, they muſt have as much free air as ſuch a ſituation will admit of, and be duly ſupplied with water.

Titles. *Aculeata* 1. The firſt ſpecies is titled, *Randia ramis biſpinoſis*. Brown calls it, *Randia foliis ſubrotundis confertis, ſummis ramulis biſpiniferis, floribus ſolitariis*; and Plukenet, *Lycium majus Americanum, jaſmini flore, foliis ſubrotundis lucidis*. It grows naturally in Jamaica.

Mihi. 2. The ſecond ſpecies is titled, *Randia ſubinermis*. In the *Hort. Cliff.* it is named ſimply, *Randia*. Sloane calls it, *Cacao affinis frutex ſpinoſus, lycii facie, jaſmini flore albo*. It grows naturally in America.

Claſs and Order in the Linnæan Syſtem. The characters. *Randia* is of the Claſs and Order *Pentandria Monogynia*; and the characters are,

1. Calyx is a monophyllous, oval, perma-

nent perianthium, indented in five parts at the top.

2. Corolla is one hypocrateriforme petal, the limb being cut into five oval, acute ſegments.

3. Stamina are five very ſhort filaments, with oblong, erect antheræ.

4. Pistillum conſiſts of an oval germen, and a ſimple, cylindrical, bifid ſtyle the length of the tube, with obtuſe, unequal ſtigmas.

5. Pericarpium is an oval berry, truncated at the top, and containing one cell.

6. Semina. The ſeeds are many, orbicular, cartilagineous, compreſſed, and ſurrounded with pulp.

CHAP. CXCV.

RAUVOLFIA.

Species. THERE are two ſpecies of this genus, called,

1. Gloſſy *Rauvolfia.*
2. Hoary *Rauvolfia.*

Gloſſy 1. Gloſſy *Rauvolfia.* The ſtalks are ligneous, ſmooth, branching a little, and grow to ſix or eight feet high. The leaves are ſpear-ſhaped, narrow, ſmooth, of a ſhining-green colour, and grow by fours at every joint. The flowers are produced on ſlender footſtalks from the wings of the leaves; they appear early in the ſummer, continue in ſucceſſion until the autumn, and are followed by roundiſh berries, which are of a black colour when ripe.

and Hoary Rauvolfia deſcribed. 2. Hoary *Rauvolfia.* The ſtalks are ligneous, ſend out a few downy branches from the ſides, and grow to about eight feet high. The leaves are oval, oblong, entire, hoary underneath, and grow in whorls round the ſtalks at the joints. The flowers are produced from the wings of the leaves like the former; they appear about the ſame time, and are ſucceeded by the like kind of black berries.

Culture. The berries of both theſe ſorts ripen in England, and by theſe they are beſt propagated. Thoſe berries which ſucceed the firſt blown flowers will be ripe in the autumn, and the ſeeds muſt be ſown at that ſeaſon, ſoon after they are ripe, or they will lie a long time before they make their appearance. They muſt be ſown in pots filled with good mould from a well-ordered kitchen-garden, and be plunged up to the rims in the bark bed in the ſtove: Here they muſt remain all winter, keeping the mould in the pots rather moiſt, with ſlight ſprinklings of water at proper intervals. In the ſpring the pots muſt be taken out of the ſtove, and be plunged into a good hotbed of tanner's bark; and this will effectually bring up the ſeeds. After the plants appear, the uſual care due to tender ſeedlings muſt accompany them until they are three or four inches high, when they ſhould be potted ſeparately, be again plunged into the bark bed, and watered and kept ſhaded until they have taken root: Then they ſhould have more air, and in the autumn be taken into a good bark ſtove, where they ſhould conſtantly remain. In winter they muſt have but little water, becauſe it is apt to rot them at that ſeaſon; but they muſt have it plentifully in ſummer, together with a large admiſſion of free air, eſpecially when the weather is hot.

They are alſo multiplied by cuttings; but as their ſeeds ripen well here, and the beſt plants are obtained from them, any other method is hardly worth putting into practice. Whoever is inclined, however, to purſue this method, may eaſily raiſe the plants, by ſetting the cuttings in pots in any of the ſummer months, and plunging them into a hotbed of tanner's bark. If they are duly, though but ſparingly at a time, watered, and kept ſhaded at firſt, they will ſoon ſtrike root, when the covering ſhould be taken off, and they ſhould be hardened by degrees to bear a large ſhare of air. If many cuttings were ſet in one pot, they muſt be potted ſeparately before the autumn, be then plunged into the bark bed, and managed as before. In the autumn they muſt be taken into the bark ſtove, and have ſimilar treatment with the ſeedlings.

Titles. Nitida 1. The firſt ſpecies is titled, *Rauvolfia glaberrima nitidiſſima.* In the former edition of the *Species Plantarum* it is named ſimply, *Rauvolfia.* Plumier calls it, *Rauvolfia tetraphylla anguſtifolia.* It grows naturally in the warm parts of America.

Canes-cens 2. The ſecond ſpecies is titled, *Rauvolfia ſubpubeſcens.* Brown calls it, *Rauvolfia fruticoſa, foliis verticillatis tenuiſſimè villoſis*; Plumier, *Rauvolfia tetraphylla latifolia*; Sloane, *Solani fructu fruticoſa, foliis laurinis oblongis integris ſubtus hirſutis*; and Plukenet, *Arbor ſycophora Jamaicenſis, foliis mollibus.* It grows naturally in Jamaica.

Claſs and Order in the Linnæan Syſtem. The characters. *Rauvolfia* is of the Claſs and Order *Pentandria Monogynia*; and the characters are,

1. Calyx is a ſmall, permanent perianthium, indented in five parts at the top.

2. Corolla is one funnel-ſhaped petal.

The tube is cylindrical, and globular at the baſe.

The limb is plane, and divided into five roundiſh, emarginated ſegments.

3. Stamina are five filaments ſhorter than the tube, having erect, ſimple, acute antheræ.

4. Pistillum conſiſts of a roundiſh germen, a very ſhort ſtyle, and a capitated ſtigma.

5. Pericarpium is a ſubglobular drupe, having a furrow on one ſide, and containing one cell.

6. Semen. The ſeed is a nut, convex at the baſe, depreſſed at the top, and containing two cells.

CHAP. CXCVI.

RHACOMA.

THERE is only one ſpecies of this genus, called, *Rhacoma*.

The plant deſcribed. The ſtalk is woody, divides into a few ſlender branches, and grows to about two or three feet high. The leaves are oval, and ſlightly indented on their edges. The flowers come out from the extremity of the branches; they are moderately large for ſo ſmall a ſhrub, rounded, and finely jagged on their edges; they are very beautiful, and ſometimes continue in blow two months in ſucceſſion.

Culture. This plant is propagated by layers, performed on the young ſhoots in the autumn. When they have ſtruck root, they muſt be taken off, potted ſeparately, and plunged into a hotbed of tanner's bark. The uſual care of watering and ſhading muſt be allowed them at firſt; afterwards they muſt have more air; and in the autumn be taken into a good bark ſtove, where they muſt conſtantly remain.

They are alſo propagated by ſeeds, and by theſe the beſt plants are generally raiſed. Theſe muſt be ſown in the ſpring, in pots filled with light, freſh earth, and plunged into a hotbed of tanner's bark; and when the plants are fit to remove, which will be at about three inches high, they muſt be potted ſeparately, and managed as the layers.

Titles. There being no other ſpecies belonging to this genus, it is named ſimply, *Rhacoma*. Brown calls it, *Groſſopetalum fruticoſum tenue, foliis ovatis tenuiſſimè denticulatis*. It grows naturally in Jamaica.

Croſsopetalum.

Claſs and Order in the Linnæan Syſtem. *Rhacoma* is of the Claſs and Order *Tetrandria Monogynia*; and the characters are,

The characters.

1. CALYX is a ſmall, monophyllous, permanent perianthium, divided into four obtuſe, ſpreading parts.
2. COROLLA is ſpreading, rounded, fimbriated, and divided into four parts.
3. STAMINA are four awl-ſhaped filaments the length of the calyx, having roundiſh antheræ.
4. PISTILLIUM conſiſts of a roundiſh germen, a ſhort, filiforme ſtyle, and an obtuſe ſtigma.
5. PERICARPIUM is a roundiſh capſule, containing one cell.
6. SEMEN. The ſeed is ſingle, and roundiſh.

⁂

CHAP. CXCVII.

RHAMNUS.

INTO the Stove ought to come,

Species.

1. Veined-leaved Prickly *Jujuba* of Ceylon.
2. Prickly Long-leaved *Jujuba* of Ceylon.

Veined-leaved 1. Veined-leaved Prickly *Jujuba* of Ceylon. The ſtalks of this plant are robuſt, woody, ten feet high, and ſend forth ſeveral ſlender branches, covered with a yellowiſh bark, and armed with crooked thorns, ~~growing~~ ſingly at the joints. The leaves are roundiſh, heart-ſhaped, have three conſpicuous veins running lengthways, and are poſſeſſed of a yellow, ſilky down on their underſide. The flowers come out in cluſters from the wings of the branches, having very ſhort footſtalks; they are ſmall, of a yellowiſh colour, and are ſucceeded by an oval fruit, about the ſize of an Olive, having within it a ſtone of the like ſhape.

and Long-leaved Prickly Jujuba of Ceylon deſcribed. 2. Long-leaved Prickly *Jujuba* of Ceylon. The ſtalk is woody; the branches ſlender, bowing, and armed with recurved thorns, which for the moſt part come out two together, though ſometimes ſingly, from the ſetting-on of the leaves. The leaves are long, ſmooth on both ſides, and their edges are ſerrated. The flowers come out from the ſides of the branches in roundiſh bunches; they are ſmall, of a yellowiſh colour, and are ſucceeded by long fruit, encloſing an hard ſtone.

Culture. Theſe plants are beſt raiſed by planting the ſtones in pots filled with light, freſh earth, and plunging them up to the rims in a hotbed made of tanner's bark. When the plants are fit to remove, each ſhould be ſet in a ſeparate pot, plunged into a ſecond hotbed, and watered and ſhaded until they have taken root. In hot weather they muſt have plenty of air, and frequent waterings; and in the autumn they muſt be plunged up to the rims in the bark of the warm ſtove, where they muſt conſtantly remain, for they are too tender to be ſet abroad; but in hot weather in ſummer as much air as poſſible muſt be granted, and frequent waterings. In winter they muſt have little water, as it is very apt at that ſeaſon to rot their fibres, and bring on certain deſtruction to the plants.

They are alſo encreaſed by ſuckers, which ſhould be taken off in the ſpring. Each ſhould be ſet in a ſeparate pot, which ſhould be plunged into a good bark bed, and watered and ſhaded until they have taken root. When this is effected, their after-management is the ſame as that of the ſeedlings. This is the common method of propagation; but trees raiſed this way are moſtly of inferior beauty to thoſe procured from ſeeds.

Titles. 1. Veined-leaved Prickly *Jujuba* of Ceylon is titled, *Rhamnus aculeis ſolitariis recurvis, pedunculis aggregatis ſubſeſſilibus, foliis ſemicordatis ſubtus tomentoſis*. Burman calls it, *Jujuba aculeata, nervoſis foliis infra ſericeis flavis.* It grows naturally in Ceylon.

Oenoplia.

2. Long-leaved *Jujuba* of Ceylon is titled, *Rhamnus aculeis ſubgeminatis recurvis, pedunculis corymboſis, floribus ſemidigynis, foliis ſerratis utrinque lævibus*. Plukenet calls it, *Jujuba Indica ſpinoſa, folio & fructu longiore*; and Rumphius, *Vidara littorea*. It grows naturally in Ceylon.

Napeca.

CHAP.

CHAP. CXCVIII.

RHUS, SUMACH.

IN the cooleſt Stove muſt be ſituated a ſpecies of this genus, called, Ceylon Sumach, or *Cobbe.*

The plant deſcribed. This plant riſes with a ſhrubby, branching ſtalk to the height of about ten feet. The leaves are trifoliate, and the folioles are oval, ſharp-pointed, ſerrated, and grow on downy footſtalks. The flowers come out from the ends of the branches in ſmall cluſters; they are of a whitiſh-green colour, and are not ſucceeded by ſeeds in England.

Culture. This ſpecies is propagated by planting the cuttings in the ſpring, in pots filled with light, freſh earth. The pots muſt be then plunged up to the rims in a bark bed; and the plants muſt be ſhaded and watered until they have taken root: After that they muſt have more air; and in the heat of ſummer the glaſſes may be wholly taken off the beds, and placed on again only in cold evenings, and damp, rainy weather. With this management they ſhould remain until the autumn, when they ſhould be placed in the coldeſt ſtove; for a ſmall degree of artificial heat only is neceſſary to keep theſe plants in a flouriſhing ſtate. In winter they ſhould have very little water, and in the ſpring ſhould be ſhifted into larger pots; and this work muſt be repeated as often as their encreaſe in ſize makes it neceſſary.

Titles. Cobbe. *Cobbe*, or *Kobbe*, or the Ceylon Sumach, is titled, *Rhus foliis ternatis: foliolis ovatis acuminatis ſerratis, pedunculis tomentoſis.* In the *Flora Zeylanica* it is termed, *Kobbe.* Petiver calls it, *Rhois trifoliatæ frutex Salwaccenſis, floribus juliformibus.* It grows naturally in Ceylon.

CHAP. CXCIX.

RIVINIA.

THERE are two diſtinct ſpecies of this genus, called,

Species.
1. Tetrandrous *Rivinia.*
2. Octandrous *Rivinia.*

Tetrandrous Rivinia deſcribed. 1. Tetrandrous *Rivinia.* The ſtalk is ligneous, divides into ſeveral branches, and grows to be three or four feet high. The leaves are heart-ſhaped, ſoft, downy, and grow on ſlender footſtalks. The flowers come out in ſpikes, elevated on footſtalks, along the ſides of the branches; they are tetrandrous, ſmall, of a white colour, ſhew themſelves in almoſt every ſeaſon of the year, and are ſucceeded by red berries, full of a red juice, which will ſtain linen, paper, or flowers with a bright-red colour.

Varieties. There is a variety of it with green, and another with ſcarlet flowers.

Octandrous Rivinia deſcribed. 2. Octandrous *Rivinia.* The ſtalk is woody, climbing, ſends out many thick branches from the ſides, which overſpread buſhes that are fifteen feet high. The leaves are oval, ſpear-ſhaped, broad, entire, and grow on ſhort footſtalks. The flowers are produced in looſe ſpikes from the ends and ſides of the branches, and are ſucceeded by ſmall berries, which are of a fine blue or violet colour when ripe.

Culture. Theſe plants are propagated by ſowing the ſeeds in pots filled with light earth, and plunging them into a hotbed of tanner's bark. When the plants are about three inches high, they muſt be potted ſeparately, be again plunged into the hotbed, and be watered and kept ſhaded until they have taken root, when they ſhould have more air. In the autumn the ſecond ſort muſt be ſet in a good warm ſtove, but the firſt muſt be taken into a temperate ſtove, and managed like other plants which will ſucceed with a moderate degree of heat.

Titles. Humilis. 1. The firſt ſpecies is titled, *Rivinia floribus tetrandris.* In the *Hort. Cliff.* it is named ſimply, *Rivina*; and in Miller's Dictionary, *Piercea foliis cordatis pubeſcentibus.* Plumier calls it, *Rivina humilis racemoſa, baccis puniceis*; Tournefort, *Solanoides Americana, circææ foliis caneſcentibus*; Plukenet, *Solanum Barbadenſe racemoſum minus tinctorium*; and Commeline, *Amaranthus baccifer, circææ foliis.* It grows naturally in the Caribbees, Jamaica, and Barbadoes.

Octandra. 2. The ſecond ſpecies is titled, *Rivinia floribus octandris dodecandriſve.* Plumier calls it, *Rivina ſcandens racemoſa, amplioribus ſolani foliis, baccis violaceis*; and Brown, *Rivina ſarmentoſa, ſarmentis craſſioribus, foliis ovatis, floribus ſpicatis dodecandris.* It grows naturally in the warmeſt parts of America.

Claſs and Order in the Linnæan Syſtem. *Rivinia* is of the Claſs and Order *Tetrandria Monogynia*; and the characters are,

The characters.

1. Calyx is a permanent, coloured perianthium, compoſed of four oblong, oval, obtuſe leaves.

2. Corolla. There is none.

3. Stamina are four, or eight, permanent filaments, ſhorter than the calyx, having ſmall antheræ.

4. Piſtillum conſiſts of a large, roundiſh germen, a very ſhort ſtyle, and a ſimple, obtuſe ſtigma.

5. Pericarpium is a globular berry, ſitting in the reflexed calyx, and containing one cell.

6. Semen. The ſeed is ſingle, rough, and nearly round.

CHAP. CC.

ROBINIA, FALSE ACACIA.

THERE are two ſpecies of this genus of a tender nature, called,

Species.

1. American *Robinia.*
2. Indian *Cytiſus.*

American Robinia deſcribed.

1. American *Robinia.* This plant grows to be twenty feet high in America. The trunk is upright, robuſt, and divides into many branches near the top, which are covered with a whitiſh bark. The leaves are large, and pinnated with an odd one; each conſiſts of eight or ten pair of folioles, which are of an oval figure, and placed oppoſite on the midrib; they are of a lucid-green colour on the lower part of the tree, but at the top are poſſeſſed of an iron-coloured, ſoftiſh down. The flowers come out in bunches from the ſides of the branches, where one footſtalk uſually ſupports two flowers; they are of a fine-violet colour, of ſhort duration, and are ſucceeded by large, oblong, compreſſed, downy pods, containing the ſeeds.

Varieties.

There are ſome varieties of this ſpecies, differing in the ſhape of the folioles, and colour of the flowers; the pinnæ of ſome being oblong, others nearly ſpear-ſhaped: The flowers of one kind are of a pale-blue, of another inclined to a dark-purple, and another kind of a ſcarlet colour.

Indian Cytiſus deſcribed.

2. Indian *Cytiſus.* This plant hath a ſmooth, woody ſtalk, which ſends forth ſeveral taper branches from the bottom to the top. The leaves are pinnated with an odd one; the folioles are few, oval, ſmooth, and entire. The flowers come out from the ſides of the branches, uſually three together, on their own proper footſtalks; they are of a whitiſh colour, and are ſucceeded by large, compreſſed pods, containing the ſeeds.

Varieties.

There is a variety of this ſpecies with yellowiſh flowers, and another ſort of a bluiſh tinge.

Culture.

Theſe ſorts are raiſed by ſowing the ſeeds on a hotbed in the ſpring. When the plants are fit to remove, they ſhould each be ſet in a ſeparate pot, and ſhould be then plunged into a hotbed of tanner's bark, where they muſt be watered and ſhaded until they have taken root. In hot weather they muſt have plenty of air; and in the autumn muſt be removed into the temperate ſtove.

They are alſo encreaſed by cuttings. Theſe ſhould be planted in pots in April, and plunged up to the rims in a hotbed of tanner's bark. They muſt be ſhaded and watered duly until they have taken root, and afterwards may be managed as the ſeedlings.

While they are in the ſtove in winter, they muſt have but little water; and in ſummer they may be ſet abroad with other tender plants in a well-ſheltered place, obſerving always to remove them early enough into the ſtove, before the cold nights advance in the autumn.

Titles.

1. American *Robinia* is titled, *Robinia racemis pedicellis bifloris, foliis impari-pinnatis.* It grows naturally in the warmer parts of America. Violacea.

2. Indian *Cytiſus* is titled, *Robinia racemis pedicelli ternis, foliis impari-pinnatis.* In the former edition of the *Species Plantarum* it is termed, *Cytiſus foliis pinnatis.* It grows naturally in India. Mitis

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CHAP. CCI.

RONDELETIA.

THERE are four diſtinct ſpecies of this genus, viz.

Species.

1. American *Rondeletia.*
2. Aſiatick *Rondeletia.*
3. Trifoliate *Rondeletia.*
4. Sweet-ſcented *Rondeletia.*

American

1. American *Rondeletia.* The ſtem is woody, ſends out numerous branches from the ſides, and grows to be ſix or eight feet high. The leaves are oblong, ſpear-ſhaped, acute, entire, ſmooth, of a ſhining-green colour on the upper ſide, paler underneath, and ſit cloſe to the branches, having no footſtalks. The flowers are produced in dichotomous panicles at the tops of the branches; they are of a white colour, appear in September or October, and are not ſucceeded by ſeeds in England.

Aſiatic,

2. Aſiatic *Rondeletia.* The ſtem is woody, divides into many ſmooth branches, and the ſhrub grows to be ſix or ſeven feet high. The leaves are oblong, acute, entire, of a firm ſubſtance, of a ſhining-green colour, and grow on ſhort footſtalks. The flowers are produced in large bunches at the ends of the branches; they are of a yellowiſh-white colour, and finely ſcented.

Trifoliate,

3. Trifoliate *Rondeletia.* The ſtem is woody, ſends out many branches from the ſides, and grows to be eight or ten feet high. The leaves are ternate, ſpear-ſhaped, ſmooth, of a bright-green colour, and grow on ſhort footſtalks. The flowers are produced in bunches at the ends of the branches; they are of a white colour, and of inferior odour to the former.

and Sweet-ſcented Rondeletia deſcribed.

4. Sweet-ſcented *Rondeletia.* The ſtem is woody, branching, and ſix or eight feet high. The leaves are ſuboval, obtuſe, and ſituated on ſhort footſtalks. The flowers are produced in bunches at the extremity of the ſhoot; they are of a white colour, and of ſuch fragrance as to perfume the air in the ſtove all around.

Theſe plants are propagated by ſowing the ſeeds in ſpring in pots filled with light, rich earth, and plunging them into a hot-bed of tanner's bark. When the plants are three inches high they muſt be potted ſeparately, be again plunged into the hotbed, and be watered and kept ſhaded at firſt, but muſt afterwards have a large ſhare of air, and in the autumn muſt be taken into a good bark ſtove, and managed like other tender plants.

Titles. 1. The firſt ſpecies is titled, *Rondeletia foliis* Americana *ſeſſilibus, paniculâ dichotomâ.* Plumier calls it, *Rondeletia arboreſcens, tini facie.* It grows naturally in America.

Asiatica. 2. The ſecond ſpecies is titled, *Rondeletia foliis petiolatis oblongis acutis.* In the *Hort. Mal.* it is named, *Cupi.* It grows naturally in Malabar and Ceylon.

Trifoliata 3. The third ſpecies is titled, *Rondeletia foliis ternis.* It grows naturally in America.

Obovata. 4. The fourth ſpecies is titled, *Rondeletia foliis petiolatis ſubovatis obtuſis.* It grows naturally in America.

Claſs and Order in the Linnæan Syſtem *Rondeletia* is of the Claſs and Order *Pentandria Monogynia*; and the characters are,

The characters. 1. Calyx is a monophyllous, permanent, perianthium, ſituated above the germen, and divided into five acute parts.

2. Corolla is one infundibuliforme petal; the tube is cylindrical, longer than the calyx, and ſomewhat ſwelling at the top; the limb is divided into five reflexed, plane, roundiſh ſegments.

3. Stamina are five awl-ſhaped filaments, nearly the length of the corolla, having ſimple antheræ.

4. Pistillum conſiſts of a roundiſh germen ſituated below the calyx, a filiforme ſtyle the length of the corolla, and a bifid ſtigma.

5. Pericarpium is a roundiſh, coronated capſule, containing two cells.

6. Semina. The ſeeds are but few in each cell.

* * *

CHAP. CCII.

RUELLIA.

Species. THE more tender ſpecies of this genus are,

1. Tuberoſe *Ruellia.*
2. Panicled *Ruellia.*
3. Barbadoes *Ruellia.*
4. *Blechum Ruellia.*
5. Curled-leaved *Ruellia.*

Tuberoſe, 1. Tuberoſe *Ruellia.* The root conſiſts of many thick, ſwelling, fleſhy tubers. The ſtalks are branching a little, and grow to about ſix inches high. The leaves are oval, crenated on their edges, and grow oppoſite to each other on ſhort footſtalks. The flowers come out from the ends and ſides of the branches on ſhort footſtalks; they are of an elegant blue colour, appear in July, and the ſeeds ripen in September.

Panicled, 2. Panicled *Ruellia.* The ſtalks are upright, firm, ſend forth ſeveral erect branches from the ſides, and grow to be two or three feet high. The leaves are oblong, rough, entire, and grow oppoſite to each other. The flowers are produced in panicles from the tops of the ſtalks; they are of a reddiſh-purple colour, appear in July, and the ſeeds ripen in autumn.

Barbadoes, 3. Barbadoes *Ruellia.* The root conſiſts of many fleſhy fibres. The ſtalks are jointed, and about ſix inches high. The leaves are oval, oblong, and grow oppoſite at the joints on moderately long footſtalks. The flowers come out from the wings of the leaves, on naked, divided footſtalks; they are ſmall, and of a purple colour; appear in July or Auguſt; and are ſucceeded by narrow, taper pods, containing ripe ſeeds in the autumn.

Blechum, 4. *Blechum Ruellia.* The ſtalks are ſmooth, four-cornered, divide by pairs, and lie on the ground. The leaves are oval, entire, a little downy, and grow oppoſite to each other. The flowers come out from the wings of the leaves in looſe, oval ſpikes; they are of a fine blue colour, appear in July, and the ſeeds ripen in the autumn. There is a variety of this ſpecies of upright growth, having white flowers.

and Curled-leaved Ruellia deſcribed. 5. Curled-leaved *Ruellia.* The root is woody, creeping, and fibrous; the ſtalks are ſimple, jointed, taper, and about ſix inches high. The leaves are ſpear-ſhaped, oval, hairy, curled on their edges, and grow on very ſhort footſtalks. The flowers come out in ſmall oval heads from the ſides of the ſtalks at the joints; they are ſmall, and of a yellow colour; appear in July; and the ſeeds ripen in September.

Culture. All theſe plants are eaſily raiſed from ſeeds. Theſe ſhould be ſown in the ſpring in pots filled with light, ſandy earth; the pots ſhould be then plunged up to the rims in a bark bed; and when the plants are fit to remove, each ſhould be ſet in a ſmall ſeparate pot, which ſhould be again plunged into a bark bed. They muſt be ſhaded, and regularly watered; and, after they have taken root, muſt have plenty of freſh air, eſpecially in warm weather. Several of the plants will flower the firſt ſeaſon, and perfect their ſeeds; and the weakeſt ſort will blow the ſummer following. Their winter ſituation muſt be only in the temperate ſtove, where they will thrive better than in a greater degree of heat, and in which they will flower and perfect their ſeeds every year.

Titles. 1. The firſt ſpecies is titled, *Ruellia foliis ovatis crenatis, pedunculis unifloris.* Dillenius calls it, *Ruellia capſulis angulatis*; Plumier, *Ruellia humilis, flore cæruleo, aſphodeli radice*; and Sloane, *Gentianella flore cæruleo, integro vaſculo ſeminali ex humidi contactu impatiente.* It grows naturally in Jamaica. Tuberosa.

2. The ſecond ſpecies is titled, *Ruellia foliis integerrimis pedunculis dichotomis lateralibus calycibus ſeſſilibus, laciniâ ſupremâ majore.* In the *Hort. Cliff.* it is termed, *Ruellia pedunculis multifloris dichotomis folio longioribus.* Sloane calls it, *Speculum Veneris majus impatiens.* It grows naturally in Jamaica. Paniculata.

3. The third ſpecies is titled, *Ruellia foliis petiolatis, pedunculis longis ſubdiviſis nudis.* Van Royen calls it, *Ruellia foliis ſeſſilibus, pedunculis trifloris*; and Dillenius, *Ruellia capſulis teretibus.* It is a native of Barbadoes. Clandestina.

4. The fourth ſpecies is titled, *Ruellia foliis ovatis integerrimis, ſpicis ovatis; bracteis interioribus geminis, floribus binis ſeſſilibus.* Plumier calls it, *Barleria pyramidata, flore cæruleo*; Brown, *Blechum foliis oblongo-ovatis, ſpicis craſſis foliatis conico-quadratis ſubhirſutis*; and Sloane, *Brunella elatior, flore albo.* It grows naturally in Jamaica. Blechum.

5. The fifth ſpecies is titled, *Ruellia foliis ſubcrenatis lanceolato-ovatis, capitulis ovatis folioſis hiſpidis.* Petiver calls it, *Adhatoda Luzanenſis, ſpicâ planâ.* It grows naturally in India. Crispa.

CHAP. CCIII.

SACCHARUM, The SUGAR CANE.

THERE are two ſpecies of this genus, called,

Species. 1. The Common Sugar Cane, or Saccharifeous Reed.

2. The Spiked Sugar Cane.

Common, 1. Common Sugar Cane. The root is thick, long, jointed, ſucculent, ſweet to the taſte, and hung with many fibres. The ſtalks are round, jointed, of a greeniſh-yellow colour, and full of a whitiſh, ſweet matter. Their height varies according to the goodneſs of the ſoil in which they are planted, being found in ſome moiſt, rich places eighteen feet high, in others not more than ſix. Their thickneſs, and diſtance of the joints, varies alſo in the like proportion; though the general height of theſe canes, upon a medium, is nine or ten feet. The leaves are three or four feet long; have a broad, whitiſh, longitudinal furrow or mid-rib; are rough on their edges, of a yellowiſh green colour, grow ſingly at the joints, and ſurround the ſtalk with their baſe a great way up. The flowers are produced in large panicles on the tops of the ſtalks. They are ſeparately ſmall, the corolla conſiſting only of two valves; they are wrapped up in long down; and each is ſucceeded by one oblong, narrow-pointed ſeed, ſurrounded by the valves which compoſe the corolla.

and Spiked Sugar Cane deſcribed. 2. Spiked Sugar Cane. The root is thick, jointed, and hung with many fibres. The ſtalks are upright, round, jointed, and ſix or eight feet high. The leaves are two or three feet long, pointed, waved on their edges, grow ſingly at the joints, and ſurround the ſtalk with their baſe. The flowers come out in ſpikes at the tops of the ſtalks; the ſpikes are ſlender, ſoft and ſilky to the touch, of a purpliſh colour, and are ſucceeded by ſeeds in the manner of the former.

Culture. Theſe plants are eaſily raiſed by ſlips or cuttings from the root. A ſtrong root will have eight or ten ſtalks; and theſe will be encreaſing more and more, as it encreaſes in age. The ſhoots will put out fibres from ſuch joints as are under ſoil; and theſe are to be taken off, preſerving ſome fibres at each cutting or ſlip, and planted in pots. The earth for the firſt ſort cannot be too rich, though the auricula compoſt is what they ſucceed in amazingly: The earth for the ſecond ſhould be more light, and ſandy. Having prepared your ſoil and pots, and taken the ſlips from the old plants, let each be ſet ſeparately in a pot, and be plunged into a hotbed of tanner's bark. They muſt be watered and kept ſhaded, and they will ſoon ſhew good ſigns of growth, when more air accordingly ſhould be allowed. When they have filled theſe ſmall pots, they muſt be ſhifted into ſtill larger, and plunged into the hotbed as before. In hot weather they muſt have plenty of freſh air, and be duly ſupplied with water, eſpecially the firſt ſort; but the other will do with leſs. In the autumn they muſt be taken into a good bark ſtove, where they muſt conſtantly remain, keeping them warm in winter, and in every reſpect affording them management ſuitable to their tender nature.

It is the firſt ſort that is propagated for Sugar in the warmer parts of the world. Their methods are various in different parts, and the diſtance allowed the plants various, according to the nature of the ſoil; though they are generally ſet in rows four or five feet aſunder. They are propagated by cuttings, and the beſt time for planting is when the rains ſet in. The ground muſt be well prepared by good ploughing, or double digging; and if the plants are kept clear from weeds, the ſtalks will ſhoot up, and they will be ripe for cutting in about ſix months after planting. This is known by their appearing heavy, dry, brittle, and exuding the juices, which harden into chryſtals of fine ſugar on the outſide of the ſtalk: They are then cut up, and taken to a mill to be bruiſed or pounded; and it is the juice of theſe ſtalks, when properly boiled and refined, that is our ſugar in its different degrees of fineneſs.

1. The firſt ſpecies is titled, *Saccharum floribus paniculatis*. Caſpar Bauhine calls it, *Arundo ſaccharifera*. It grows naturally in moiſt places in both the Eaſt and Weſt Indies. Titles. Officinarum.

2. The ſecond ſpecies is titled, *Saccharum floribus ſpicatis, foliis undatis*. In the *Hortus Malabricus* it is termed, *Tieriakuren-pullu*. Scheuchzer calls it, *Alopecurus Malabrica, foliis undulatis, ſpicâ prætenui*; and Plukenet, *Gramen paniculatum brevifolium criſpum, ſpicâ purpureo-ſericeâ, Madeaſpatanum*. It inhabits the crags of India. Spicatum.

Saccharum is of the Claſs and Order *Triandria Digynia*; and the characters are, Claſs and Order in the Linnæan Syſtem. The characters.

1. Calyx. There is none; but a wool longer than the flower encloſes one flower diſtinctly.

2. Corolla conſiſts of two oblong, ſpear-ſhaped, acuminated, erect, concave, equal, beardleſs valves.

3. Stamina are three capillary filaments the length of the corolla, with oblongiſh antheræ.

4. Pistillum conſiſts of an awl-ſhaped germen, and two cirrhoſe ſtyles, with ſimple ſtigmas.

5. Pericarpium. There is none. The corolla inveſts the ſeed.

6. Semen. The ſeed is ſingle, oblong, narrow, and ſharp-pointed.

CHAP. CCIV.

SAMYDA.

Species.

THERE are five diſtinct ſpecies of this genus, called,

1. Elm-leaved *Samyda.*
2. Small-flowered *Samyda.*
3. Gloſſy *Samyda.*
4. Prickly *Samyda.*
5. Downy *Samyda.*

Elm-leaved,

1. Elm-leaved *Samyda.* The ſtem is woody, ſends forth ſeveral weak branches, and grows to be five or ſix feet high. The leaves are oval, oblong, pointed, ſerrated, and of a light-green colour. The flowers are produced from the wings of the leaves on ſhort footſtalks; they are of a red colour, and are ſucceeded by roundiſh berries containing the ſeeds.

Small-flowered,

2. Small-flowered *Samyda.* The ſtem is woody, branching, and ten or twelve high. The leaves are oval, oblong, pointed, ſmooth on both ſides, and of a ſtrong green colour. The flowers are produced in cluſters from the wings of the leaves; they are ſmall and yellowiſh, and are ſucceeded by ſmall, roundiſh berries, which are of a ſaffron colour when ripe.

Gloſſy,

3. Gloſſy *Samyda.* The ſtalk is woody, branching, and eight or ten feet high. The leaves are heart-ſhaped, ſlightly notched on their edges, and of a ſhining green colour. The flowers are produced in ſmall looſe ſpikes from the wings of the leaves; they are octandrous, and are ſucceeded by four-valved capſules containing the ſeeds.

Prickly,

4. Prickly *Samyda.* The ſtalk is woody, and divides into many ſlender branches, which are armed with ſharp ſpines. The leaves are like thoſe of the Orange Tree, ſmooth, of a firm ſubſtance, and a good green colour. The flowers are produced from the wings of the leaves on ſhort footſtalks; they are octandrous, and are ſucceeded by four-valved capſules, like the former.

and Downy Samyda deſcribed.

5. Downy *Samyda.* The ſtalk is woody, and the branches are ſoft, and covered with a mealy down. The leaves are oval, oblong, entire, and downy underneath. The flowers come out in cluſters from the wings of the leaves; they are dodecandrous, of a pale-yellow colour, and of a moſt delightful odour; and they are ſucceeded by berry-like capſules, which are compoſed each of five valves.

Culture.

Theſe plants are beſt propagated by ſeeds procured from abroad. Theſe muſt be ſown in the ſpring in pots filled with good, light garden mould, and plunged into a hotbed of tanner's bark. When the plants are fit to remove, they muſt be potted ſeparately, be again plunged into the hotbed, and watered and ſhaded until they have taken root; after that they muſt have a large ſhare of air, which muſt be granted them by degrees; and in the autumn be taken into a temperate bark ſtove, where they muſt conſtantly remain under the care and management of tender plants.

Titles.

1. The firſt ſpecies is titled, *Samyda floribus dodecandris, foliis ovato-oblongis ſerrulatis.* Jacquin calls it, *Samyda floribus dodecandris*; and Plumier, *Guidonia ulmi folio, flore roſeo niveo.* It grows naturally in America.

Serrulata.

2. The ſecond ſpecies is titled, *Samyda floribus decandris, foliis ovato-oblongis utrinque glabris.* Lœfling calls it, *Samyda parviflora*; Jacquin, *Caſſearia floribus decandris*; Brown, *Samyda foliis ovatis cum acumine, fructibus pluribus minoribus confertis*; and Sloane, *Arbor baccifera foliis oblongis acuminatis, floribus confertim ex alis foliorum erumpentibus, fructu minimo croceo.* It grows naturally in America.

Parviflora.

3. The third ſpecies is titled, *Samyda floribus octandris, foliis cordatis glabris.* Brown calls it, *Samyda foliis nitidis cordatis læviſſimè crenatis rudimentis mollibus rubentibus, racemis tenuioribus alaribus.* It grows naturally in America.

Nitida.

4. The fourth ſpecies is titled, *Samyda floribus octandris, ramis ſpinoſis.* Jacquin calls it, *Caſſearia aculeata.* It grows naturally in America.

Spinosa.

5. The fifth ſpecies is titled, *Samyda floribus dodecandris, foliis obovatis ſubtus tomentoſis.* Brown calls it, *Samyda foliis ovatis villoſis, floribus confertis, faſciculis ſparſis*; and Sloane, *Frutex baccifer folio oblongo integro, flore pentapetalo pallidè luteo odoratiſſimo.* It grows naturally in America.

Pubescens.

Claſs and Order in the Linnæan Syſtem.

Samyda is of the Claſs and Order *Decandria Monogynia*; and the characters are,

The characters.

1. CALYX is a monophyllous, bell-ſhaped, coloured, patent, permanent perianthium, divided into five parts.

2. COROLLA. There is none, but a nectarium compoſed of five ſcales, (or elſe a truncated cone) ſurrounding the receptacle, and divided into two narrow, obtuſe ſegments, which are ſhorter by half than the calyx.

3. STAMINA are about ten awl-ſhaped, erect filaments, a little ſhorter than the calyx, and alternately inſerted in the hollow of the nectarium, and alternately in the diviſions of the calyx, having roundiſh antheræ.

4. PISTILLUM conſiſts of an oval germen, a filiforme ſtyle the length of the ſtamina, and a globular, hoary ſtigma.

5. PERICARPIUM is a roundiſh capſule, full of pulp, compoſed of three or four valves, and containing one cell.

6. SEMINA. The ſeeds are many, and baccated.

CHAP. CCV.

SANTALUM, The SAUNDERS TREE.

Species.

THERE is only one ſpecies of this genus, (but it admits of two) called, The Saunders Tree.

The plant deſcribed.

This tree in India grows to more than thirty or forty feet high, and divides into many branches, which are covered with a deep-brown bark. The leaves are pinnated, the pinnæ being three or four pairs along the midrib, terminated by an odd one, of an oval, oblong figure, thick in ſubſtance, of an elegant green colour, finely ſcented when bruiſed, and come out without order on the branches. The flowers are produced from the upper parts of the branches, are of a beautiful blue colour, and are followed by largiſh berries, containing the ſeeds.

Properties of the plant.

The outer part of the wood of this tree is white, and is the White Saunders of the ſhops; the inward part or heart is of a pale-yellow colour, and is the Yellow Saunders of the ſhops. The White Saunders has little or no ſmell or taſte, and is poſſeſſed of few or no virtues; but the Yellow Saunders is finely ſcented, of a quick, aromatic taſte, communicates a fine bitter to diſtilled ſpirits, and is uſed in medicine as a reſtorative, cordial, cephalic, &c.

Culture.

The Saunders Tree is propagated by the berries procured from abroad. Theſe muſt be ſown on a good hotbed in the ſpring; and, when the plants are four inches high, they muſt be planted ſeparately in pots filled with good, light garden-mould; they muſt be then plunged into a hotbed of tanner's bark, where they muſt be watered and kept ſhaded until they have taken root; when they ſhould be accuſtomed by degrees to bear a large ſhare of air, eſpecially in hot weather; but they ſhould not be wholly expoſed. In the autumn they muſt be taken into a good bark-ſtove, where they muſt conſtantly remain under the care and management due to tender plants.

Titles.

There being no other ſpecies of this genus, it is named ſimply, *Santalum*. Caſpar Bauhine calls it, *Santalum album*; and Breynius, *Santalum verum*. It grows naturally in India.

Album.

Claſs and Order in the Linnæan Syſtem.

Santalum is of the Claſs and Order *Octandria Monogynia*; and the characters are,

The characters.

1. CALYX, or Perianthium, is only a margin placed upon the germen, and obſoletely indented in four parts.

2. COROLLA is a bell-ſhaped petal, having a plane, quadrifid, acute limb.

3. STAMINA are eight filaments, alternately ſhorter, and inſerted in the top of the tube of the corolla, having ſimple antheræ.

4. PISTILLUM conſiſts of a turbinated germen ſituated below the calyx, a ſtyle the length of the ſtamina, and a ſimple ſtigma.

5. PERICARPIUM is a berry.

6. SEMINA. . . . . .

CHAP. CCVI.

SAPINDUS, The SOAP-BERRY TREE.

THERE are three diſtinct ſpecies of this genus, viz.

Species.

1. The Soap-berry Tree.
2. Trifoliate Soap-berry Tree.
3. Prickly Soap-berry Tree.

The Soap-berry Tree deſcribed.

1. Soap-berry Tree. The ſtem is woody, upright, ſends out many branches near the top, and the tree grows to be twenty or thirty feet high. The leaves are pinnated, being compoſed of four or five pairs of ſpear-ſhaped, firm folioles, arranged along a membranaceous midrib, and terminated by an odd one. The flowers are produced in looſe ſpikes at the ends of the branches; they are of a white colour, and are ſucceeded by globular, inflated capſules, including globular nuts, which are of a black colour when ripe. The pulp or covering which ſurrounds theſe nuts is ſaponaceous, and is uſed in America as we do ſoap for the waſhing of cloth: The nuts are alſo uſed as buttons for wearing apparel.

Trifoliate

2. Trifoliate Soap-berry Tree. The ſtem is woody, upright, firm, and divides into many branches near the top. The leaves are trifoliate, ſmooth, and of a pale-green colour. The flowers are produced in ſmall cluſters at the ends of the branches, and are ſucceeded by three capſules growing together, and including globous nuts.

and Prickly Soap-berry Tree deſcribed.

3. Prickly Soap-berry Tree. The ſtem is upright, woody, branching, and both ſtem and branches are armed with numerous ſharp ſpines. The leaves are abruptly pinnated, the folioles being oval, and of a pale-green colour. The flowers are produced in cluſters at the ends of the branches, and are ſucceeded by berry-like capſules, including nuts like the former.

Culture.

Theſe ſpecies are propagated by planting the nuts, procured from abroad, in pots filled with rich earth, ſuch as is directed for the Auriculas, and plunging them into a hotbed of tanner's bark. The mould muſt be kept moiſt with frequent ſprinklings of water, the better to facilitate the growth of the ſeeds; and when the plants appear, they muſt be nurſed with all the care of tender ſeedlings until they are about three or four inches high: Then they muſt be planted ſeparately in pots filled with the like kind of Auricula compoſt, be plunged again into the hotbed, and watered and kept ſhaded until they have taken root. From that time they muſt be hardened by degrees to the open air, and in the autumn taken into a temperate ſtove, and managed like other plants which will ſucceed beſt in a moderate degree of artificial heat only. They will require but little water in winter, but muſt be duly ſupplied with it in ſummer, eſpecially when the weather is hot.

Titles. Saponaria 1. The firſt ſpecies is titled, *Sapindus foliis impari-pinnatis, caule inermi.* In the *Hort. Cliff.* it is termed ſimply, *Sapindus.* Rumphius calls it, *Saponaria*; Brown, *Sapindus foliis oblongis vix petiolatis per coſtam amplè alatam*; Sloane, *Prunifera racemoſa, folio alato coſtâ mediâ membranulis utrinque exſtantibus, donata*; Commeline, *Nux Americana, foliis alatis bifidis*; and Plukenet, *Nuci prunifera arbor Americana, fructu ſaponario orbiculato monococco nigro.* It grows naturally in both the Eaſt and Weſt Indies.

Trifoliata 2. The ſecond ſpecies is titled, *Sapindus foliis ternatis.* In the *Hort. Malab.* it is termed, *Poerinſii, ſive Vercæpælongi.* It grows naturally in Malabar.

Spinosus. 3. The third ſpecies is titled, *Sapindus foliis abruptè pinnatis, caule ſpinoſiſſimo.* Brown calls it, *Sapindus fruticoſus, caudice et ramis ſpinoſiſſimis, foliis ovatis pinnatis.* It grows naturally in Jamaica.

Claſs and Order in the Linnæan Syſtem. The Characters. *Sapindus* is of the Claſs and Order *Octandria Trigynia*; and the characters are,

1. Calyx is a ſpreading perianthium, compoſed of five nearly oval, almoſt equal, plane, patent, coloured, deciduous leaves.

2. Corolla conſiſts of four oval, unguiculated petals.

The nectarium is compoſed of four oblong, concave, erect leaves, inſerted in the baſe of the petals; alſo of four roundiſh glands in the baſe of the petals.

3. Stamina are eight filaments the length of the flower, having heart-ſhaped, erect antheræ.

4. Pistillum conſiſts of a triangular germen, and three ſhort ſtyles, with ſimple ſtigmas.

5. Pericarpium is compoſed of three globular, inflated capſules, growing together.

6. Semen. The ſeed is a globular nut.

CHAP. CCVII.

SCHINUS, INDIAN MASTICK.

THERE are only two ſpecies of this genus in the Stove, viz.

Species. 1. Peruvian Maſtick Tree.

2. Braſilian Maſtick Tree.

Peruvian 1. Peruvian Maſtick Tree. The ſtem is woody, covered with a brown bark, divides into many branches, and grows to eight or ten feet high. The leaves are pinnated, and grow alternately; the pinnæ are ten or twelve pairs arranged along the midrib, terminated by an odd one; are ſerrated, of a ſhining green colour, and, when bruiſed, ſmell like turpentine. The flowers are produced in looſe bunches at the ends of the branches; they are ſmall, of a white colour, and appear in July; but are not ſucceeded by ſeeds in England.

and Braſilian Maſtick Tree deſcribed. 2. Braſilian Maſtick Tree. The ſtem is woody, branching, and grows to eight or ten feet high. The leaves are pinnated, the folioles being entire, equal, and of a lucid green colour. The flowers are produced in ſmall cluſters from the ends and ſides of the branches; they are of a greeniſh or whitiſh-yellow colour, appear in July, but are rarely ſucceeded by ſeeds in theſe parts.

Culture. Theſe ſpecies are propagated by ſeeds, layers, or cuttings; but as the beſt plants are raiſed from ſeeds, I ſhall firſt point out that method. The ſeeds muſt be procured from abroad, and ſown, in the ſpring, in pots filled with light, freſh earth, and plunged into a hotbed of tanner's bark. When the plants come up, the uſual care of tender ſeedlings muſt accompany them until they are three or four inches high, when they muſt be potted ſeparately, be again plunged into the hotbed, and watered and ſhaded until they have taken root: After that, they muſt have more air, and be hardened by degrees to the full air; but they ſhould not be taken out of the bed until the autumn, when they ſhould be removed into a very temperate ſtove; for a moderate degree of artificial heat will be ſufficient for them. They may be ſet abroad for two or three months during the hotteſt part of the ſummer; but they muſt conſtantly, at the approach of autumn, be taken into the like kind of ſtove as before; and under this management they muſt be trained for five or ſix years, until they become ſtrong plants, when they will do very well in a good greenhouſe, under the diſcipline of the more tender kinds of greenhouſe plants.

They are alſo increaſed by layers. This muſt be performed in the uſual manner on the tender ſhoots any time in the autumn, winter, or ſpring. If they are duly watered, they will have ſtruck good root by the autumn following; but it will be proper to let them remain undiſturbed until the ſpring, when they ſhould be taken off, potted ſeparately, and plunged into a moderate degree of warmth, to facilitate their taking root. They muſt be ſhaded from the heat of the ſun, and duly watered at firſt; and afterwards they muſt be hardened by degrees to the open air, and managed as the ſeedlings.

When they are to be increaſed by cuttings, many ſhould be planted together in pots in the ſpring, and plunged into a good hotbed of tanner's bark; they muſt be cloſely covered down with mats, and duly watered; and in about a month or ſix weeks they will ſhew good ſigns of growth, when they ſhould be hardened by degrees to a large ſhare of air: Afterwards they ſhould be potted ſeparately, be again plunged into the hotbed, and managed as the layers.

1. The firſt ſpecies is titled, *Schinus foliis pinnatis; foliolis ſerratis, impari longiſſimo, petiolo æquali.* Caſpar Bauhine calls it, *Lentiſcus Peruviana*; Seba, *Lentiſcus Africana*; and Cluſius, *Molle.* It grows naturally in Peru. Titles. Molle.

2. The ſecond ſpecies is titled, *Schinus foliis pinnatis; foliolis integerrimis æqualibus, petiolo æquali.* Fewill calls it, *Molle foliis non ſerratis.* It grows naturally in Braſil and Peru. Areira

Schinus is of the Claſs and Order *Dioecia Decandria*; and the characters are, Claſs and Order in the Linnæan Syſtem.

I. Male.

The characters.

I. Male.

1. Calyx is a monophyllous perianthium, divided into five ſpreading, acute parts.

2. Corolla conſiſts of five oval, patent, petiolated petals.

3. Stamina are ten filiforme, patent filaments the length of the corolla, having roundiſh antheræ.

4. Pistillum. There is a rudiment of a piſtil, but the ſtigma is wanting.

II. Female.

1. Calyx is a monophyllous, permanent perianthium, divided into five acute parts.

2. Corolla conſiſts of five oblong, patent, petiolated petals.

3. Pistillum conſiſts of a roundiſh germen without any ſtyle, but three oval ſtigmas.

4. Pericarpium is a globular berry, containing three cells.

5. Semina. The ſeeds are ſingle, and globular.

C H A P. CCVIII.

SCROPHULARIA, FIGWORT.

Species. OF this genus there is an elegant, tender ſpecies, called, Scarlet Figwort.

The plant deſcribed. The ſtalk is upright, firm, and grows to about two feet high. The leaves are oval, acute-pointed, ſerrated, of a pale-green colour, and four of them ſurround the ſtalk in a radiated manner at a joint, ſitting cloſe, without any footſtalks. The flowers come out in whorls from the tops of the ſtalks, forming a ſpike of a conſiderable length: They are of a fine ſcarlet colour, and very beautiful; they appear in June and July, and the ſeeds ripen in Auguſt.

Culture. This ſpecies is raiſed by ſowing the ſeeds, in the ſpring, in pots filled with light, freſh earth, and then plunging the pots up to the rims in a ſlight hotbed, the more effectually to bring the ſeeds up. When they appear, they muſt have as much air as the weather will permit, and be frequently watered; and when they are of a ſize to remove, each ſhould be ſet in a ſeparate pot, and be plunged into the hotbed as before: Here they muſt be duly watered and ſhaded until they have taken root; after that they muſt be hardened by degrees to the open air, when the glaſſes may be taken off, or the pots may be ſet abroad in warm, well-ſheltered places. When the cold nights come on in September, they ſhould be removed under ſome ſhelter, or ſet in the green-houſe, to remain there for a month, or longer, as the weather happens; and from thence they ſhould be removed into the cooleſt ſtove for their winter reſidence. In the ſpring, the ſtalks will ſhoot up for flowering; they will frequently exhibit their bloom in May, will continue in beauty a month or longer, and are ſometimes ſucceeded by good ſeeds; ſoon after which the roots generally die: So that whoever is deſirous of continuing this elegant ſpecies, ſhould be careful to ſow the ſeeds at proper intervals for a ſucceſſion.

Titles. Coccinea. This ſpecies is titled, *Scrophularia foliis quaternis ovatis, floribus verticillatis ſpicatis.* Houſtoun calls it, *Scrophularia flore coccineo, foliis urticæ quaternis caulem ambientibus.* It grows naturally at La Vera Cruz.

C H A P. CCIX.

SENECIO, GROUNDSEL.

THERE is a remarkable ſpecies of this genus, that requires the aſſiſtance of a warm Stove to cauſe it to flouriſh in theſe parts; and that is

Species. called, The Indian *Senecio*, or Groundſel of Madraſs.

The plant deſcribed. This ſpecies is a perennial. The root is very large, thick, and fleſhy, and has been erroneouſly taken for the China Root. The leaves are ſmooth, large, and in figure and ſize a little reſemble thoſe of the Garden Turnep. From among theſe riſes a ſlender ſtalk, growing to the height of about two feet: It is almoſt naked, and the top of it ſupports a few large yellow flowers. Theſe are deſtitute of that ornamental border which ſets off moſt flowers of this kind, called the Rays. It is, however, a pretty plant; and its being rather ſcarce, is another motive to recommend it to our notice.

Culture. It rarely produces ſeeds in England; but is eaſily propagated by parting the roots in the ſpring. The plants muſt be ſet each in a ſeparate pot, filled with good, light, ſandy earth, and plunged up to the rims in the bark-bed: Their after-management muſt be the ſame as that of other tender plants.

Titles. Pseudo China. This ſpecies is titled, *Senecio corollis nudis, ſcapo ſubnudo longiſſimo.* Dillenius calls it, *Senecio Maderaſpatanus, rapi folio, floribus maximis, cujus radix à nonnullis China dicitur.* It grows naturally in India.

CHAP. CCX.

SIDEROXYLUM, IRON-WOOD.

Species.

OF this genus are,
1. Smooth *Sideroxylum.*
2. Prickly *Sideroxylum.*

Smooth and Prickly Sideroxylum deſcribed.

1. Smooth *Sideroxylum.* The ſtem is woody, covered with a brown bark, ſends forth branches without order, and the ſhrub grows to be ſix or eight feet high. The leaves are large, oval, oblong, ſmooth, of a firm ſubſtance, and a bright green colour. The flowers are produced from the wings of the leaves, along the ſides of the branches; but they rarely appear in England, nor are they ever followed by ſeeds in theſe parts.

2. Prickly *Sideroxylum.* The ſtalk is ſhrubby, branching, and armed with ſharp ſpines. The leaves are like thoſe of the Box-tree, ſmall, oval, ſmooth, of a firm ſubſtance, and a bright-green colour. The flowers are produced at the extremities of the ſhoots; but they ſeldom appear here, and are never ſucceeded by fruit.

The wood of theſe ſpecies is ſo ponderous as to ſink in water, and of ſo hard, compact, and ſolid a nature, as to occaſion the appellation of Iron-Wood to be applied to it.

Culture.

They are propagated by ſeeds procured from abroad. Theſe muſt be ſown in the ſpring in pots filled with rich, freſh earth, and plunged into a hotbed of tanner's bark. The mould muſt be kept moiſt by frequent ſprinklings of water, or the ſeeds will be a long time before they come up. After their appearance the uſual care required by tender ſeedlings muſt accompany them until they are three inches high, when they ſhould be potted ſeparately, be again plunged into the bark-bed, and watered and kept ſhaded at firſt; afterwards more air muſt be granted them by degrees, and frequent watering, eſpecially in hot weather. In the autumn they muſt be taken into the bark-ſtove, where the ſecond ſort muſt conſtantly remain; but the firſt is more hardy, and will ſucceed very well in a dry ſtove, or in any temperate degree of heat: It may be ſet abroad for about two months in the hotteſt part of the ſummer; but the other muſt remain conſtantly in the bark-ſtove, giving it regular ſupplies of water, and much free air in hot weather in ſummer; in winter, however, the watering ſhould be but ſeldom, and in a very ſmall quantity at a time.

Titles.

1. The firſt ſpecies is titled, *Sideroxylon inerme.* Dillenius calls it, *Sideroxylon primum, ſive dein Coriæ inodorum nomine data arbor*; and Burman, *Padus foliis oblongis, fructu ſolitario.* It grows naturally in Æthiopia.

Inerme.

2. The ſecond ſpecies is titled, *Sideroxylon ſpinoſum, foliis perennalibus.* In the *Hortus Malabricus* it is termed, *Caro-mælli.* It grows naturally in Malabar.

Spino-ſum.

Claſs and Order in the Linnæan Syſtem. The characters.

Sideroxylum is of the Claſs and Order *Pentandria Monogynia*; and the characters are,

1. CALYX is a ſmall, erect, permanent perianthium, cut at the top into five ſegments.

2. COROLLA is one rotated petal: The ſegments are five in number, roundiſh, concave, erect, and at the baſe of every diviſion of the petal is ſituated a cuſpidated, ſerrated denticle, bending inwards.

3. STAMINA are five awl-ſhaped filaments the length of the corolla, and placed alternately with the denticles, having oblong, incumbent antheræ.

4. PISTILLUM conſiſts of a roundiſh germen, an awl-ſhaped ſtyle the length of the ſtamina, and a ſimple, obtuſe ſtigma.

5. PERICARPIUM is a roundiſh, umbilicated drupe, containing one cell.

6. SEMEN is an oval, unilocular nut.

CHAP. CCXI.

SISYRINCHIUM, BERMUDIANA.

Species.

IT is the Palm-leaved *Bermudiana* that requires the ſituation of the Stove: It grows in the Weſt Indies; and a ſuitable artificial heat is neceſſary to make it thrive in theſe parts.

The plant deſcribed.

The root is a ſmall bulb, of an oblong, oval figure, and its outer ſkin is of a fine red colour. The leaves are very much like thoſe of the Palm Tree; they are long, narrow, and pointed; have ſeveral longitudinal plaits; their colour is a light-green; and they embrace each other at their baſe. Between theſe ariſes the flower-ſtalk, which will grow to near half a foot high; the top of it produces the ſpatha, and out of this iſſue a few ſmall blue flowers. Each flower is compoſed of ſix petals, which expand themſelves, for a few hours only, in the morning. It flowers in June or July, but never produces good ſeeds in theſe parts.

Culture.

The propagation of this ſpecies is by dividing the roots; for they ſend forth offsets in plenty. The beſt time for it is on the decay of the leaves; the offsets ſhould have each a ſeparate ſmall pot, filled with light, ſandy, freſh earth; and afterwards ſhould be plunged in the bark-bed, where they ſhould conſtantly remain.

Title.

This is a variety of a ſpecies before deſcribed. Tournefort calls it, *Bermudiana palmæ folio, radice bulboſâ.* It grows naturally in the Weſt Indies.

Bermudi-ana

CHAP. CCXII.

SMILAX, ROUGH BINDWEED.

I CAN hardly recommend any ſpecies of the *Smilax* for our Stoves, they being too rambling, and of very little beauty. Curioſity, however, and a love of variety, may admit ſome of them, where there is the convenience of a large ſtove; and for the ſatisfaction of ſuch it is that the bare mention of them is made in this place. The principal of them are Smooth Trinervous-leaved, and Smooth Quinquenervous-leaved ſorts. And of theſe there are a great many varieties, differing in the figure of their leaves: For there are,

Varieties.
1. The Cordated-leaved:
2. The Oblong:
3. The Oval:
4. The Lanceolate-leaved *Smilax*.

The plant deſcribed. All of them have large, ſpreading roots; and the ſtalks are round, and ſmooth: They have long claſpers, by the help of which they will overſpread trees and buſhes to a great height. The leaves are of the different figures and properties mentioned in the different varieties. The flowers are produced in ſmall bunches from the wings of the ſtalks: There are male and female in different plants; they have no petals, and have nothing to induce the raiſing them but variety, and the deſire of a general collection.

Culture. They are propagated from ſeeds, which muſt be procured from the places where they naturally grow. They ſhould be ſown in pots, and will frequently be two years before they come up. The firſt ſummer, therefore, it will be adviſable to ſet the pots in a ſhady place, and keep them clean from weeds; in the winter move them under a hotbed frame; and in the ſpring plunge them into a hotbed, to facilitate the growth of the ſeeds. They muſt be thinned where they come up too thick; and when the heat of the bed is abated, they muſt be planted in large pots, turning the mould out with the roots, and then plunged in a ſecond hotbed: Much air and frequent waterings muſt be afforded them; and here they may ſtand until they get too large for the glaſſes, when they may be removed into the ſtove, plunged into the bark-bed, and there conſtantly preſerved, to cauſe them to ſhoot ſtrong, and have a vigorous and healthy look, without which care the plants are ſeldom poſſeſſed of ſuch qualifications.

They may alſo be propagated by offsets from the roots. Let this be done in the ſpring, and let each offset be planted in a pot, and then plunge the pots into a hotbed. There they will immediately ſtrike root, and afterwards muſt have air and water, and the ſame management as the ſeedling plants when they are grown to a conſiderable ſize.

Titles. Pseudo China. 1. Theſe plants, except the Lanceolate-leaved *Smilax*, ſeem to be varieties only of one ſpecies. Linnæus calls it, *Smilax caule inermi tereti, foliis inermibus; caulinis cordatis, rameis ovato-oblongis quinquenerviis*. Its variations, by titles in different authors, are pointed out: Brown calls it, *Smilax aſpera, foliis trinerviis oblongis, petiolis biclaviculatis*; and Gronovius, *Smilax caule tereti inermi, foliis cordato-ovatis acutis inermibus, petiolis bidentatis*. It grows naturally in Virginia and Jamaica.

Lanceolata. 2. The Lanceolate-leaved *Smilax* is a diſtinct ſpecies, and is titled, *Smilax caule inermi tereti, foliis inermibus lanceolatis*. Cateſby calls it, *Smilax non ſpinoſa, baccis rubris*. It grows naturally in Virginia.

CHAP. CCXIII.

SOLANUM, NIGHT-SHADE.

THE moſt tender ſpecies of *Solanum* we have at preſent are,

Species.
1. Bahama Night-ſhade.
2. Fiery-Thorned Night-ſhade.
3. Trilobate Night-ſhade.
4. Guinea Night-ſhade.

Bahama. 1. Bahama Night-ſhade is a ſhrub about a yard high. The ſtalk is armed with thorns, and divides into ſeveral branches near the top. The leaves are ſpear-ſhaped, obtuſe, reflexed, and on the midrib is a row of erect, ſharp thorns. The flowers are produced from the ſides of the branches in ſingle ſpikes; their colour is blue, and they are ſucceeded by red fruit, about the ſize of a Black Cherry.

Fiery Thorned. 2. Fiery-Thorned Night-ſhade hath a ſhrubby, branching ſtalk, about a yard high, cloſely ſet with ſharp, ſtraight thorns of a fiery red colour. The leaves are ſpear-ſhaped, pointed, revolute at their baſe, and have a range of the fire-coloured ſpines along the midrib. The flowers grow in ſingle ſpikes from the ſides of the branches; their colour is white; and they are ſucceeded by red berries, about the ſize of the former.

Trilobate 3. Trilobate Night-ſhade hath a ſhrubby, ſlender ſtalk, that is armed with ſharp, reflexed thorns. The leaves are wedge-ſhaped, ſmall, ſmooth, obtuſe, conſiſt of three or five lobes, and have no ſpines along the midrib. The flowers grow ſingly on footſtalks; they are ſmall, white, placed in ſmall cups, and are ſucceeded by ſmall berries, about the ſize of thoſe of the Elder Tree.

Guinea Night-ſhade deſcribed. 4. Guinea Night-ſhade hath a ſhrubby, ſmooth, branching ſtalk, that is unguarded by thorns, and will grow to about ſeven feet high. The leaves are of an oval figure, ſmooth, and of a dark-green colour; their edges are entire, and they are placed on ſhort footſtalks on the branches. The flowers are produced in ſmall bunches from the ſides of the branches, on very ſlender footſtalks; they are ſmall, white, and are ſucceeded by yellow fruit, about the ſize of a Black Cherry. The culture of this ſpecies is uſually effected by planting the cuttings, covering them down with hand-glaſſes, and ſhading them until they have taken root; but the beſt plants are always raiſed from ſeeds.

There are ſeveral varieties of the tender ſorts of *Solanum*; but as they belong to one or other of the ſpecies already treated of, a further account of them here is not neceſſary.

Culture. All theſe tender ſorts are beſt raiſed by ſowing the ſeeds on an hotbed in the ſpring. The plants will readily come up; and, after they are got about two inches high, each ſhould be ſet in a ſmall pot filled with rich, light, ſandy earth. The pots muſt be immediately plunged into a ſecond hotbed; watering them muſt not be omitted, as there ſhall be occaſion; but it ſhould not be given them in too great quantities at a time. When the plants have filled theſe pots, they muſt be ſhifted into larger, obſerving always to pare off, with a ſharp knife, the fibres that have grown next the pot: Theſe pots muſt immediately have the benefit of a third hotbed, and the plants muſt be ſhaded from the violence of the ſun in the mid-day, and frequently watered. Air at all times muſt be conſtantly afforded them, as the weather will permit; and about Midſummer you may inure your plants to the full air. In fine weather, therefore, entirely take the glaſſes off, and cover the plants again on the approach of cold and bad weather. About the end of Auguſt remove them into the ſtove, and there let them remain all winter, frequently giving them water; for the nature of theſe plants requires it. In June, or early in July, as the weather will permit, they may be ſet abroad with other tender plants, and removed into the ſtove at the end of Auguſt, as before. And with this management the plants may be continued healthy; and will every year, after they are about two years old, afford you plenty of flowers and ripe fruit, which will have a very pretty effect with thoſe of other curious plants.

1. Bahama Night-ſhade is titled, *Solanum caule aculeato fruticoſo, foliis lanceolatis repandis obtuſis margine reflexis, racemis ſimplicibus.* Dillenius calls it, *Solanum Bahamenſe ſpinoſum, petalis anguſtis reflexis*; and Sloane, *Solanum fruticoſum bacciferum ſpinoſum, flore cæruleo.* It grows naturally in the Iſland Providence. **Titles.** Bahamen=se.

2. Fiery-Thorned Night-ſhade is titled, *Solanum caule aculeato fruticoſo, foliis lanceolatis acuminatis baſi utrinque revolutis, racemis ſimplicibus.* Plukenet calls it, *Solanum ſpiniferum fruteſcens, ſpinis igneis, Americanum.* It grows naturally in America. Igneum.

3. Trilobate Night-ſhade is titled, *Solanum caule aculeato fruticoſo, foliis cuneiformibus ſubtrilobis glabris obtuſis inermibus.* Plukenet calls it, *Solanum ſpinoſum Jamaicenſe glabrum, foliis parvis minus profundè laciniatis.* It grows naturally in Jamaica, and at the Cape of Good Hope. Triloba=tum.

4. Guinea Night-ſhade is titled, *Solanum caulé inermi fruticoſo, foliis ovatis integerrimis; pedunculis lateralibus filiformibus.* Van Royen calls it, *Solanum caule inermi perenni, foliis ovatis integris, floribus ad baſin ramulorum confertis*; Boerhaave, *Solanum Africanum lignoſum, folio atro-viridi anguſto oblongo obtuſo.* It grows naturally on the coaſt of Guinea. Guine=ense.

CHAP. CCXIV.

SOPHORA.

Species. OF this genus there are three ſpecies, viz.

1. Downy *Sophora.*
2. Heptaphyllous *Sophora.*
3. Two-flowered *Sophora.*

Downy, 1. Downy *Sophora.* The ſtalk is woody, downy, and grows to ſix or ſeven feet high. The leaves are pinnated, being compoſed of ſeveral pair of folioles arranged along the midrib, and terminated by an odd one; their figure is roundiſh, and they are white, with a ſilvery down. The flowers come out from the ſides of the ſtalks in ſhort, looſe ſpikes; they are large, and of a yellow colour, and make a fine appearance when in blow.

Heptaphyllous, 2. Heptaphyllous *Sophora.* The ſtalk is woody, branching a little, and grows to three or four feet high. The leaves are pinnated, and conſiſt of ſeven narrow, ſmooth folioles. The flowers come out in ſhort, looſe ſpikes from the ſides of the ſtalk; their colour is yellow, they appear in July and Auguſt, and the ſeeds ripen in September.

and Two-flowered Sophora deſcribed. 3. Two-flowered *Sophora.* The ſtalk is woody, firm, branching, and ten or twelve feet high. The leaves are oval, ſimple, downy, and ſoft to the touch. The flowers come out, two together, on footſtalks ariſing from the wings of the leaves; they are of a yellow colour, appear in July, and the ſeeds ripen in September.

Culture. Theſe ſorts are raiſed by ſowing the ſeeds in pots, and then plunging them up to the rims in a good hotbed. When the plants are fit to remove, each ſhould be ſet in a ſeparate pot, and be plunged into the hotbed as before; they muſt be ſhaded and duly watered until they have taken root; afterwards they muſt have much air, and, in September, muſt be removed into the cooleſt ſtove; eſpecially the laſt ſpecies, which will do very well in a good green-houſe, if ſtove-room be wanting.

1. The firſt ſpecies is titled, *Sophora foliis pinnatis; foliolis numeroſis ſubrotundis tomentoſis.* In the *Flora Zeylanica* it is termed, *Sophora tomentoſa, foliolis ſubrotundis*; and in the *Hort Cliff.* *Indigophora foliis tomentoſis.* Herman calls it, *Colutea Zeylanica argentea tota.* It grows naturally in Ceylon. **Titles.** Tomentosa.

2. The ſecond ſpecies is titled, *Sophora foliis pinnatis; foliolis ſeptenis glabris.* In the *Flora Zeylanica* it is termed, *Sophora glabra, foliolis ſeptenis.* Plukenet calls it, *Fruticulus Sinenſis, ſennæ ſylveſtris folio anguſtiore*; and Rumphius, *Antichorierica.* It grows naturally in India. Heptaphyl=la.

3. The third ſpecies is titled, *Sophora foliis ſimplicibus obovatis ſubtomentoſis, pedunculis bifloris.* In the *Hort. Cliff.* it is termed, *Crotalaria foliis ſimplicibus ovatis villoſis, petiolis ſimpliciſſimis, ramis teretibus.* Plukenet calls it, *Crotalaria arbor Africana, ſtyracis folio molli incano*; Herman, *Geniſta arboreſcens Africana, ſtyracis folio*; and Breynius, *Myrto-geniſta capitis B. Spei.* It grows naturally in Æthiopia. Biflora.

CHAP. CCXV.

SPATHELIA.

Species. THERE is only one ſpecies of this genus, named, *Spathelia*.

The plant deſcribed. The ſtalk is woody, upright, and undivided. The leaves are ſomewhat like thoſe of the Service Tree, and ſpread themſelves in a beautiful manner all around. The flowers come out in looſe ſpikes or bunches at the tops of the ſtalks; they are of a purple colour, and are ſucceeded by oblong, three-cornered capſules, containing the ſeeds.

Culture. This plant is propagated by ſowing the ſeeds, procured from abroad, in a hotbed in the ſpring. When the plants are about three or four inches high, they muſt be potted ſeparately, and then plunged into a hotbed of tanner's bark: Here the uſual care of watering and ſhading muſt be allowed them at firſt, and afterwards they muſt have more air; but they muſt not be wholly expoſed, nor taken out of the hotbed until the autumn; then they muſt be removed into a good bark-ſtove, and managed like other tender plants.

Titles. There being no other ſpecies belonging to this genus, it is termed ſimply, *Spathelia*. Brown calls it, *Spathe caudice ſimplici, fronde pinnatâ comoſâ, racemo ſimpliciſſimo laxo terminali*; and Sloane, *Aceri aut Paliuro affinis arbor, caudice non ramoſo, foliis ſorbi, floribus racemoſis purpureis, fructu tribus membranulis alato*. It grows naturally in Jamaica. Simplex.

Claſs and Order in the Linnæan Syſtem. The characters. *Spathelia* is of the Claſs and Order *Pentandria Trigynia*; and the characters are,

1. CALYX is a perianthium, compoſed of five oblong, coloured leaves.
2. COROLLA conſiſts of five oblong, equal leaves.
3. STAMINA are five awl-ſhaped, riſing filaments, with oval antheræ.
4. PISTILLUM conſiſts of an oval germen ſhorter than the ſtamina, has no ſtyle, but three roundiſh ſtigmas.
5. PERICARPIUM is an oblong, trigonal capſule, containing three cells.
6. SEMINA. The ſeeds are ſingle, triquetrous, and oblong.

CHAP. CCXVI.

SPERMACOCE, BUTTON-WEED.

Species. OF this genus are,

1. Verticillated *Spermacoce*.
2. Rough *Spermacoce*.
3. Prickly *Spermacoce*.
4. Hiſpid *Spermacoce*.
5. Corymboſe *Spermacoce*.

Verticillated, 1. Verticillated *Spermacoce*. The ſtalk is ligneous, ſends out a few ſlender branches from the ſides, and grows to be two or three feet high. The leaves are ſpear-ſhaped, narrow, ſmooth, and grow oppoſite at the joints. The flowers are collected in thick, globular cluſters at the tops of the ſtalks; they are ſmall, and of a ſnow-white colour, appear in June and July, and the ſeeds ripen in September.

Rough, 2. Rough *Spermacoce*. The ſtalks are herbaceous, erect, hairy, and ſend out branches by pairs oppoſite. The leaves are oval, oblong, downy underneath, and ſit cloſe to the ſtalks: The lower ones are placed oppoſite; but, towards the upper part, four of them ſurround the ſtalk at each joint. The flowers are produced in large, whorled cluſters at the tops of the ſtalks; they appear in July, and the ſeeds ripen in the autumn.

Prickly, 3. Prickly *Spermacoce*. The ſtalks are ligneous, divide into numerous branches from the bottom, which again divide into others, ſo that the whole forms a buſh two or three feet high. The leaves are narrow, and edged with very minute, ſharp ſpines. The flowers are produced in ſmall whorls at the extremities of the ſhoots; they are of a white colour, appear in June and July, and the ſeeds ripen in autumn.

Hiſpid, 4. Hiſpid *Spermacoce*. The ſtalks are herbaceous, hiſpid, branching, and grow two or three feet high. The leaves are obbval, oblong, and grow oppoſite at the joints. The flowers come out from the wings of the leaves, at the upper parts of the ſtalks; they are of a white colour, appear in June and July, and the ſeeds ripen in September.

and Corymboſe Spermacoce deſcribed. 5. Corymboſe *Spermacoce*. The ſtalks are herbaceous, angular, weak, and trailing. The leaves are narrow, reflexed, and grow oppoſite to each other at the joints. The flowers are produced in roundiſh bunches from the ends and ſides of the branches; they appear in June and July, and the ſeeds ripen in September.

Culture. All theſe are raiſed by ſowing the ſeeds on a hotbed in the ſpring. When the plants are fit to remove, they muſt be planted ſeparately in pots filled with good garden-mould, and then plunged into a hotbed of tanner's bark: They muſt be watered and ſhaded at firſt, and, when they have commenced a good growing ſtate, muſt be gradually hardened to a large ſhare of freſh air; but they muſt not be taken out of the hotbed until the autumn, when they muſt be plunged into the bark-bed of the ſtove, kept warm all winter, and the ſummer following they will flower, and perfect their ſeeds.

Titles. 1. The firſt ſpecies is titled, *Spermacoce glabra, foliis lanceolatis, verticillis globoſis*. In the former edition of the *Species Plantarum* it is termed, *Spermacoce glabra, ſtaminibus extantibus*. Dillenius calls it, *Spermacoce verticillis globoſis*. Plukenet, *Scabioſa Jamaicenſis hyſſopifolia*; and Sloane, *Pulegium fruticoſum erectum, verticillis denſiſſimis*. It grows naturally in Jamaica and Africa. Verticil=lata.

2. The ſecond ſpecies is titled, *Spermacoce pu-* Hirta

beſcens, foliis oblongis, ſummis quaternis, floribus verticillatis. Brown calls it, *Spermacoce erecta ſubhirſuta, foliis oblongis, ſuperioribus approximatis.* It grows naturally in Jamaica.

Spinosa. 3. The third ſpecies is titled, *Spermacoce ſuffruticoſa, foliis linearibus, ſpinulis ciliatis.* Lœfling calls it, *Spermacoce ſuffruticoſum*; and Jacquin, *Spermacoce ſpinoſa.* It grows naturally in America.

4. The fourth ſpecies is titled, *Spermacoce hiſpida foliis obovatis.* Burman calls it, *Galeopſis Zeylanica, folio oblongo, flore albo.* It grows naturally in Ceylon. Hispida.

5. The fifth ſpecies is titled, *Spermacoce procumbens, foliis linearibus, corymbis lateralibus pedunculatis.* It grows naturally in India. Corymbosa.

C H A P. CCXVII.

SPONDIAS, BRASILIAN PLUM.

THERE are two ſpecies of this genus in the Stove, viz.

Species.
1. Purple Braſilian Plum.
2. Yellow Braſilian Plum.

Purple and Yellow Braſilian Plum deſcribed.

1. Purple Braſilian Plum. The ſtalk is woody, and divides into numerous branches, which are covered with a browniſh bark. The leaves are numerous, and pinnated ſomewhat like thoſe of the Aſh Tree. The flowers come out from the ends and ſides of the branches, and are followed by a large, oblong fruit, of a purple colour when ripe.

2. Yellow Braſilian Plum becomes a conſiderable tree in the Weſt Indies. The leaves are pinnated, the folioles being numerous along the midrib, of an oval figure, and a gloſſy green colour, and are uſually terminated by an odd one. The flowers are yellow, are produced in looſe ſpikes at the ends of the branches, and are ſucceeded by bunches of large fruit, which is of a yellow colour when ripe.

Culture. Theſe plants are propagated by ſowing the ſeeds, procured from abroad, in pots filled with light, rich earth, and plunging them into a hotbed of tanner's bark. When the plants come up, the uſual care due to tender ſeedlings muſt accompany them until they are about three or four inches high; then they muſt be planted ſeparately in pots filled with the like kind of light, rich earth; be again plunged into the hotbed, where they muſt be watered and ſhaded until they have taken root; and afterwards muſt have more air admitted to them by degrees, in the manner directed for other tender plants. In the autumn they muſt be taken into a good barkſtove, where they muſt conſtantly remain, ſhifting them from time to time into larger pots, as often as they ſhall require it; watering them at proper intervals, eſpecially in ſummer, when the weather is hot, and when as large a current of free air as poſſible muſt be allowed them.

Titles. 1. The firſt ſpecies is titled, *Spondias petiolis communibus compreſſis.* Brown calls it, *Spondias diffuſa, foliis plurimis minoribus pinnatis, pennâ compreſſâ ſulcatâ, floribus præcocioribus*; and Sloane, *Myrabalanus minor, folio fraxini alato, fructu purpureo oſſiculo magno fibroſo.* It grows naturally in moſt iſlands of the Weſt Indies. Purpurea.

2. The ſecond ſpecies is titled, *Spondias foliolis nitidis.* In the *Hort. Cliff.* it is termed ſimply, *Spondias.* Plumier calls it, *Monbin arbor, folio fraxini, flore luteo racemoſo*; Sloane, *Myrabalanus folio fraxini alato, fructu luteo, oſſiculo magno fibroſo*; Merret, *Prunus Americanus*; Ray, *Prunus Braſilienſis, fructu racemoſo ligno intus pro oſſiculo*; Marcgrave, *Acaja et Ibametara*; and Brown, *Spondias foliolis plurimis pinnatis ovatis, racemis terminalibus, cortice interno rubente*; alſo, *Spondias foliis paucioribus pinnatis ovatis nitidis.* It grows naturally in moſt of the hot parts of America. Lutea.

Claſs and Order in the Linnæan Syſtem. *Spondias* is of the Claſs and Order *Decandria Pentagynia*; and the characters are,

The characters.

1. CALYX is a monophyllous, ſubcampanulated, deciduous, coloured perianthium, cut into five parts at the brim.

2. COROLLA is compoſed of five oblong, plane, patent petals.

3. STAMINA are ten awl-ſhaped, erect filaments, ſhorter than the corolla, but are alternately longer, having oblong antheræ.

4. PISTILLUM conſiſts of an oval germen, and five ſhort, diſtant, erect ſtyles, with obtuſe ſtigmas.

5. PERICARPIUM is a very large, oblong drupe, having five marks or punctums, occaſioned by the falling off of the ſtyles.

6. SEMEN is an oval, ligneous, fibrous, ſubpentangular nut, containing five cells.

C H A P. CCXVIII.

S T A P E L I A.

WE know at preſent only of two ſpecies belonging to this genus, viz.

Species.
1. Variegated *Stapelia.*
2. Hairy *Stapelia.*

Variegated Stapelia deſcribed. 1. Variegated *Stapelia.* The ſtalks are ligneous, thick, ſhort, angular, ſucculent, poſſeſſed of many ſpreading denticles on the ſides, and full of a viſcous juice. The flowers are produced ſingly on footſtalks from the ſides of the branches. They are of a greeniſh colour on the outſide, yellow within, beautifully variegated with a purple circle at the bottom, and numerous ſtripes and ſpots of the ſame colour; they are poſſeſſed of a ſtrong, diſagreeable odour, appear in the ſummer, and are ſeldom ſucceeded by ſeeds in England.

Hairy Stapelia deſcribed.

2. Hairy *Stapelia.* The ſtalks are ligneous, thick, ſucculent, erect, angular, poſſeſſed of erect denticles on the ſides, and are of a deep-green colour in ſummer, but change to a kind of purple in the autumn. The flowers are produced from the ſides of the branches on ſhort footſtalks; they are large, of a greeniſh-yellow colour beautifully ſtriped with purple, and poſſeſſed of numerous ſoft, purpliſh hairs on their inſide; they appear great part of the ſummer and autumn, but are very rarely ſucceeded by ſeeds in England.

Culture.

Theſe plants are eaſily propagated by planting the branches or ſlips taken from the main head. Theſe muſt be firſt laid by in a dry warm place for the wounded parts to ſkin over, otherwiſe they will rot; and when this is effected, which will be in four or five days, they muſt be planted in pots filled with a ſandy, rubbiſhy earth. They grow naturally out of the crevices of the higheſt rocks, which ſhould direct us to give ſand the greateſt ſhare of the compoſt, and alſo to afford them water in ſmall quantities. Having planted the cuttings, they ſhould be plunged into a ſlight hotbed; and when they have commenced a good ſtate of growth, they muſt be hardened by degrees to the open air; and the glaſſes ſhould be then taken off, but ſhould conſtantly be replaced on the fall of much rain, which often proves fatal to them in theſe parts. In the autumn they muſt be taken into the dry ſtove, and every ſummer ſet abroad under ſhelter, to protect them from heavy rains; thus they will be healthy, and produce flowers, though they are hardly ever ſucceeded by ſeeds in our gardens. If the convenience of a ſtove is wanting, they may be preſerved in a good green-houſe; but ſuch a ſituation is not ſo well adapted to their nature as a moderate degree of artificial heat in winter.

Titles.

Variegata.

1. The firſt ſpecies is titled, *Stapelia denticulis ramorum patentibus.* In the *Hort. Cliff.* it is termed, *Stapelia denticulis ramorum extrorſum prominulis.* Moriſon calls it, *Aſclepias Aizoides aphylla, flore fritillariæ, ſiliquis longis anguſtis erectis*; and Herman, *Apocynum humile Aizoides, ſiliquis erectis, Africanum*, It grows naturally at the Cape of Good Hope.

Hirſuta.

2. The ſecond ſpecies is titled, *Stapelia denticulis ramorum erectis.* Commeline calls it, *Aſclepias Africana aizoides, flore pulchrè fimbriato.* It grows naturally at the Cape of Good Hope.

Claſs and Order in the Linnæan Syſtem. The characters.

Stapelia is of the Claſs and Order *Pentandria Digynia*; and the characters are,

1. Calyx is a ſmall, monophyllous, permanent perianthium, cut at the edge into five acute parts.

2. Corolla is one large, plane petal, cut beyond the middle into five broad, plane, acuminated ſegments.

The nectarium conſiſts of two plane ſtellulæ; one of them is divided into five narrow ſegments, the tops of which are torn, and ſurround the parts of generation; the other is cut into five acute, undivided ſegments, which alſo ſurround the parts of generation.

3. Stamina are five broad, plane, erect filaments, with linear antheræ growing to each ſide.

4. Pistillum conſiſts of two oval, plane germens, without any ſtyles, but obſolete ſtigmas.

5. Pericarpium conſiſts of two oblong, awl-ſhaped follicules, each being formed of one valve, and containing one cell.

6. Semina. The ſeeds are numerous, imbricated, compreſſed, and crowned with down.

CHAP. CCXIX.

STEMODIA.

Species.

The plant deſcribed.

THERE is only one ſpecies of this genus in the Stove, called *Stemodia.*

The ſtalks are weak, ſhrubby, and procumbent. The leaves are haſtated, indented on their edges, and ſit cloſe to the ſtalk. The flowers are produced ſingly on the wings of the leaves, and are followed by oblong capſules containing the ſeeds.

Culture.

This plant is raiſed by ſeeds, which muſt be ſown on a hotbed in the ſpring; and, when the plants are fit to remove, muſt be planted ſeparately in pots filled with ſandy, but tolerably rich earth; they muſt be then plunged into a hotbed, ſhaded, and afterwards hardened to bear a large ſhare of air; but they muſt not be taken out of the bed until the autumn; then they muſt be taken into a good bark-ſtove, and there they will ſometimes flower great part of the winter.

Titles.

Maritima

There being no other ſpecies belonging to this genus, it is termed ſimply, *Stemodia.* Brown calls it, *Stemodiacra maritima odorata, foliis minoribus ſeſſilibus denticulatis haſtatis, floribus ſolitariis alaribus*; and Sloane, *Scordium maritimum fruticoſum procumbens.* It grows naturally in Jamaica.

Claſs and Order in the Linnæan Syſtem. The characters.

Stemodia is of the Claſs and Order *Didynamia Angioſpermia*; and the characters are,

1. Calyx is a monophyllous, permanent perianthium, cut at the top into five upright, equal ſegments.

2. Corolla is one irregular petal; the tube is the length of the calyx; the limb is ſub-bilabiated, and ſomewhat erect; the upper lip is oval, and whole; the lower lip is divided into three rounded, equal ſegments.

3. Stamina are four ſubequal, bifid filaments the length of the tube, having eight antheræ, one being ſituated on each arm of the filaments.

4. Pistillum conſiſts of an obtuſe germen, a ſimple ſtyle the length of the ſtamina, and an obtuſe ſtigma.

5. Pericarpium is an oblong, oval capſule, formed of two valves, and containing two cells.

6. Semina. The ſeeds are numerous, and globular.

CHAP. CCXX.

SURIANA.

Species.

AT preſent we have but one ſpecies of this genus, called, *Suriana*.

The plant deſcribed.

The ſtalk is woody, thick, covered with a dark-brown bark, divides into many branches, and grows to be eight or ten feet high The leaves are ſpear-ſhaped, obtuſe, of a bad green colour, ſit cloſe, and are produced irregularly from every ſide of the upper parts of the branches. The flowers grow, three or four together, on foot-ſtalks ariſing from the wings of the leaves; they are of a yellow colour, and are ſucceeded by five roundiſh ſeeds, ſitting cloſe to the calyx.

Culture.

This plant is propagated by ſowing the ſeeds in pots filled with light, freſh earth, and plunging them into a hotbed of tanner's bark. The mould in the pots muſt be kept moiſt by frequent ſprinkling of water; and when the plants come up, the niceſt care due to tender ſeedlings muſt accompany them until they are two or three inches high: They muſt be then potted ſeparately, be again plunged into the hot-bed, and watered and kept ſhaded until they have taken root; afterwards a large ſhare of freſh air muſt be granted them by degrees; and frequent waterings; and in the autumn they muſt be taken into a very good bark ſtove, where they muſt conſtantly remain, keeping them very warm in winter, allowing them conſtant ſupplies of water, and a regular admiſſion of freſh air in hot weather in ſummer.

It grows naturally near the ſea in the warmeſt parts of America, and in ſuch places as are frequently overflowed with ſea-water, which ſhould direct us to be conſtant in ſupplying it with that element; but it muſt not be in too great quantities at a time, as it is found by experience to rot their tender fibres, ſtop the progreſs of the plants, and finally to deſtroy them.

Titles.

Maritima.

There being no other ſpecies of this genus, it is termed ſimply, *Suriana*. Plumier calls it, *Suriana foliis portulacæ anguſtis*; Brown, *Suriana maritima, foliis lanceolatis, floribus ſingularibus*; and Plukenet, *Arbor Americana, ſalicis folio, frondoſa Bermudienſis*. It grows naturally in the maritime parts of the Warmer America.

Claſs and Order in the Linnæan Syſtem. The characters.

Suriana is of the Claſs and Order *Decandria Pentagynia*; and the characters are,

1. CALYX is a permanent perianthium, compoſed of five ſpear-ſhaped, acuminated leaves.
2. COROLLA conſiſts of five oboval, patent petals, the length of the calyx.
3. STAMINA are ten filiforme filaments ſhorter than the corolla, having ſimple antheræ.
4. PISTILLUM conſiſts of five roundiſh germens, and the like number of ſingle, filiforme, erect ſtyles, the length of the ſtamina, inſerted into the middle of the interior ſide of the germens, having obtuſe ſtigmas.
5. PERICARPIUM. There is none.
6. SEMINA. The ſeeds are five, and roundiſh.

CHAP. CCXXI.

SWIETENIA, The MAHOGANY TREE.

Species.

THIS genus, at preſent, conſiſts of one ſpecies only, called, The Mahogany Tree.

The plant deſcribed.

The trunk is ſometimes five or ſix feet in diameter, and the trees frequently grow to fourſcore or a hundred feet high. The leaves are pinnated, being compoſed of ſix or eight pair of folioles, which have a nerve or vein running nearer one ſide than the other; and they in ſome meaſure reſemble thoſe of our Aſh Tree. The flowers are produced but thinly from the ſides of the branches; they are moderately large and ſpreading, and are ſucceeded by very large ligneous capſules, containing the ſeeds. The firmneſs of the wood of this tree is now generally known, and its ſuperlative excellency acknowledged. The Oak, which the Engliſh have ſo much cauſe to boaſt of, poſſeſſes not better qualities, even for ſhip-building. The worm harbouring more frequently in oak than in mahogany, the latter is more durable for thoſe purpoſes: It reſiſts common ſhot, and never ſplinters on the reception of larger; on account of which the Spaniards in the Weſt Indies make great uſe of this wood for ſhip-building in time of war. We receive it in moderate plenty from the Americans; but being very dear, it is uſed chiefly in England for domeſtick uſes in the beſt furniſhed houſes, where it is variouſly employed for the different purpoſes of ornament and ſervice.

Culture.

Its propagation in England, as a matter of curioſity, is exactly the ſame as *Cedrela*, to which it is nearly allied.

Titles.

Mahagoni.

There being no other ſpecies belonging to it, it is termed ſimply, *Swietenia*. Brown calls it, *Cedrela foliis pinnatis, floribus ſparſis, ligno odorato*; and Cateſby, *Arbor foliis pinnatis nullo impari: nervo ad latus*. It grows naturally in the Bahama Iſlands, Jamaica, Cuba, Hiſpaniola, and moſt of the warmeſt parts of America.

Claſs and Order in the Linnæan Syſtem. The characters.

Swietenia is of the Claſs and Order *Decandria Monogynia*; and the characters are,

1. CALYX is a ſmall, monophyllous, deciduous perianthium, cut at the brim into five obtuſe ſegments.
2. COROLLA is five oboval, obtuſe, concave, patent petals. The nectarium is of one leaf, cylindrical, as long as the petals, and indented in ten points.
3. STAMINA are ten very minute filaments inſerted below the denticles of the nectarium, having oblong, erect antheræ.
4. PISTILLUM conſiſts of an oval germen, an awl-ſhaped, erect ſtyle the length of the nectarium, and a capitated, plane ſtigma.
5. PERICARPIUM is a large, oval, ligneous, five-valved capſule, containing five cells, and opening in five parts at the baſe.
6. SEMINA. The ſeeds are many, imbricated, compreſſed, oblong, obtuſe, and furniſhed with a leafy membrane. The receptacle is large, and pentangular.

CHAP. CCXXII.

TABERNÆMONTANA.

Species. OF this genus are,

1. Citron-leaved *Tabernæmontana.*
2. Laurel-leaved *Tabernæmontana.*
3. Alternate-leaved *Tabernæmontana.*

Citron-leaved, 1. Citron-leaved *Tabernæmontana.* The ſtalk is woody, upright, covered with a ſmooth, grey bark, full of a milky juice, ſends forth many erect branches from the ſides, and grows to about ſixteen feet high. The leaves are of a thick conſiſtence, oval, ſpear-ſhaped, waved on their edges, ſmooth, of a ſhining green colour; and grow oppoſite to each other on footſtalks. The flowers are produced from the ſides of the branches in roundiſh bunches; they are of a bright yellow colour, and finely ſcented; they appear pretty frequent in our ſtoves, but the ſeeds do not ripen in England.

Laurel-leaved, 2. Laurel-leaved *Tabernæmontana.* The ſtalk is woody, of a grey colour, ſends out many branches near the top, and grows to be ten or twelve feet high. The leaves are oval, obtuſe, of a thick conſiſtence, a ſhining green colour, and grow oppoſite to each other on ſhort footſtalks. The flowers are produced in roundiſh bunches from the ends of the branches; they are of a white colour, and an agreeable odour; they frequently ſhew themſelves in our ſtoves, with good management, but are rarely ſucceeded by pods in theſe parts. There is a variety of it with yellow flowers.

and Alternate leaved Tabernæmontana deſcribed. 3. Alternate-leaved *Tabernæmontana.* The ſtem is woody, thick, branching, and fixteen or eighteen feet high. The leaves are broad, ſpear-ſhaped, ſmooth, of a thick conſiſtence, of a ſhining green colour on their upper ſide, and grow alternately on ſhort footſtalks. The flowers are produced in largiſh bunches from the ends of the branches; they are of a white or yellow colour, and are not ſucceeded by ripe ſeeds in England.

Culture. Theſe plants are propagated by planting the cuttings in pots filled with light, ſandy earth, and plunging them up to the rims in a good hotbed of tanner's bark. Any of the ſummer months is a proper ſeaſon for the work; and after the cuttings are taken off, they ſhould be laid by in a dry airy place for a few days, that the wounded parts may ſkin over before they are planted, otherwiſe there will be great danger of their rotting. Having obſerved theſe neceſſary precautions, and plunged the pots up to the rims in the bark bed, they muſt be ſlightly watered, and kept ſhaded until they have taken root; afterwards they muſt have more air; but this muſt be granted them with caution, unleſs the weather is extremely warm and fine. In the autumn they muſt be taken into one of the beſt bark ſtoves, where they muſt be kept warm, and have but little water in winter; but require to be frequently watered, and have much freſh air when they are grown to be ſtrong plants in hot weather in ſummer.

They are alſo raiſed by ſeeds. Theſe muſt be procured from abroad, and ſown in the ſpring in pots filled with good light garden mould, and plunged into a hotbed of tanner's bark; and when the plants are about three inches high, they muſt be potted ſeparately, be plunged again into the hotbed, and managed like the cuttings.

The beſt plants are always raiſed from ſeeds; though the difficulty of procuring them from abroad makes the propagation by cuttings more general in theſe, and indeed all other plants that are to be encreaſed that way.

Titles. 1. The firſt ſpecies is titled, *Tabernæmontana foliis oppoſitis ovatis, floribus lateralibus glomerato-umbellatis.* In the *Hort. Cliff.* it is termed, *Tabernæmontana foliis lanceolatis.* Plumier calls it, *Tabernæmontana citri foliis undulatis*; and Rheede, *Pala.* It grows naturally in India.

Citrifolia.

2. The ſecond ſpecies is titled, *Tabernæmontana foliis oppoſitis ovalibus obtuſiuſculis.* Amman calls it, *Tabernæmontana laurifolia, flore albo, fructu rotundiore*; and Sloane, *Nerium arboreum, folio latiore obtuſo, flore luteo minore.* It grows naturally by the rivers in Jamaica.

Laurifolia

3. The third ſpecies is titled, *Tabernæmontana foliis alternis, caule arboreſcente.* Rheede calls it, *Curutu-pala.* It grows naturally in Malabar.

Alternifolia.

Claſs and Order in the Linnæan Syſtem. *Tabernæmontana* is of the Claſs and Order *Pentandria Monogynia*; and the characters are,

The characters. 1. Calyx is a very ſmall perianthium cut into five acute parts.

2. Corolla is one infundibuliforme petal. The tube is cylindrical and long. The limb is plane, and divided into five obtuſe, oblique ſegments.

The nectarium conſiſts of five bifid glands, ſtanding round the germen.

3. Stamina are five ſmall filaments riſing from the middle of the tube, having connivent antheræ.

4. Pistillum conſiſts of two ſimple germens, an awl-ſhaped ſtyle, and an oblong, capitated ſtigma.

5. Pericarpium is conſtituted of two horizontally reflexed, ventricoſe, acuminated folliculès, each being formed of one valve, and containing one cell.

6. Semina. The ſeeds are numerous, oval, oblong, obtuſe, rough, imbricated, and ſurrounded with pulp.

CHAP. CCXXIII.

TAMARINDUS, The TAMARIND TREE.

Species. THERE is only one ſpecies of this genus, called, The Tamarind Tree.

The plant deſcribed. The trunk is large, often three or four yards round, covered with a greyiſh-brown bark, divides into many ſpreading branches near the top; and the tree, in its native ſoil, grows to be ſixty feet high, or upwards. The leaves are long and pinnated; the pinnæ are almoſt oval, ſmall, ſmooth, of a bright green colour on their upper ſide, a little hairy underneath, and are about eighteen pair along the mid-rib, to which they ſit cloſe, and are not terminated by an odd one. The flowers are produced in looſe bunches from the wings of the leaves; they are of a roſe colour marked with ſtripes of a deeper red, are ſucceeded by the pods containing the ſeeds, and a thick, blackiſh, acrid pulp, which is uſed in medicine.

Property of the plant. The pulp of theſe pods is admirable for quenching of thirſt, and allaying of immoderate heat; for which purpoſes it is frequently employed in fevers, &c. It is a gentle purge, bears a ſhare in the Lenitive Electuary, and is an ingredient in many compoſitions.

Culture. This ſpecies is propagated by ſowing the ſeeds in pots filled with very rich, light earth in the ſpring, and plunging them into a hotbed of tanner's bark. The mould in the pots muſt be kept moiſt by frequent ſprinklings of water; and when the plants come up, the uſual care attending tender ſeedlings muſt accompany them until they are four inches high, when they ſhould be potted ſeparately, be again plunged into the hotbed, and watered and kept ſhaded until they have taken root. When they have commenced a good growing ſtate they muſt have more air, but muſt not be wholly expoſed; and when the roots are grown ſo large as to fill the pots they muſt be ſhifted into a ſize larger, plunging them into a hotbed, and managing them as before. In the autumn they muſt be taken into one of the beſt bark ſtoves, where they muſt conſtantly remain, keeping them very warm in winter, and at that ſeaſon giving them little water, but affording them regular ſupplies of it in ſummer, and granting them more or leſs freſh air in proportion to the heat of the weather.

Titles. Indica There being no other ſpecies of this genus, it is named ſimply, *Tamarindus*. In the *Hort. Mal.* it is termed, *Balam-puli*. Caſpar Bauhine calls it, *Siliqua Arabica, quæ Tamarindus*. It grows naturally in India, America, Ægypt, and Arabia.

Claſs and Order in the Linnæan Syſtem. The characters. *Tamarindus* is of the Claſs and Order *Triandria Monogynia*; and the characters are,

1. Calyx is a plane perianthium compoſed of four oval, acute, coloured, deciduous leaves.

2. Corolla conſiſts of three oval, plicated, equal, riſing, patent petals the length of the calyx, there being room for a fourth and loweſt petal to tally with the leaves of the cups left open.

The nectarium conſiſts of two ſetæ placed under the filaments.

3. Stamina are three awl-ſhaped, riſing filaments, placed together in the empty ſinus of the calyx, and arched towards the corolla, having oval, incumbent antheræ.

4. Pistillum conſiſts of an oblong, pedicellated germen, an awl-ſhaped, riſing ſtyle, and a thickiſh ſtigma.

5. Pericarpium is a long, compreſſed pod, having a double bark, containing one cell.

6. Semina. The ſeeds are for the moſt part three, angular, and compreſſed.

* * *

CHAP. CCXXIV.

TETRACERA.

Species. At preſent we know only of one ſpecies that belongs to this genus, called, *Tetracera*.

The plant deſcribed. The ſtem is woody, covered with a whitiſh bark, divides into ſeveral weak, twining branches, and grows to be twelve or fourteen feet high. The leaves are large, oval, oblong, pointed, ſerrated near the extremity, very rough, and grow alternately on ſhort footſtalks. The flowers are produced in looſe ſpikes at the ends of the branches, and are followed by four oval, reflexed capſules, containing the ſeeds.

Culture. This plant is propagated by ſeeds procured from abroad. They ſhould be ſown in pots filled with light, rich earth, and plunged into a hotbed of tanner's bark. If the ſeeds ſhould not come up through the ſtrength of this bed, the pots ſhould be plunged in the autumn in the tan-bed in the ſtove, where they ſhould remain all winter, keeping the mould moiſt with now and then a ſlight ſprinkling of water. In the ſpring they muſt be taken out of the ſtove, and plunged into a good hotbed as before, and the ſeeds then will ſoon come up. They muſt be nurſed with the uſual care of tender ſeedlings until they are four inches high, when they ſhould be potted ſeparately, be again plunged into the hotbed, and watered and kept ſhaded until they have taken root: The covering muſt then by degrees be taken off, and they muſt gradually be allowed more air, and in hot weather muſt have plenty of it; but they muſt never be expoſed to the full open air. In the autumn they muſt be taken into a good bark ſtove, where they muſt conſtantly remain under the care and diſcipline of the more tender kinds of plants.

Titles. Volubilis. There being no other ſpecies belonging to this genus, it is named ſimply, *Tetracera*. Amman calls it, *Petræa floribus ſpicatis, ſcabris lauri foliis*; Brown, *Tetracera foliis amplis ſerratis obovatis cum acumine, capſulis bigeminis*; Sloane, *Arbor maxima forte prunifera, cortice cannabino, folio longiſſimo latiſſimoque*; Plukenet, *Fagus Americanus, ulmi ampliſſimis foliis, capſulis bigemellis*; alſo, *Arbor Americana convolvulacea platyphyllos Barbadenſibus dicta, foliis ſerratis*. It grows naturally in the warmeſt parts of America.

Claſs and Order in the Linnæan Syſtem. The characters. *Tetracera* is of the Claſs and Order *Polyandria Pentagynia*; and the characters are,

1. Calyx is a perianthium compoſed of ſix roundiſh, permanent, patent leaves, the three outer ones being placed alternately, and ſhorter than the others.

2. Corolla. Doubtful if any.

3. Stamina are numerous ſimple, permanent filaments the length of the calyx, having ſimple antheræ.

4. Pistillum conſiſts of four oval germens parting from each other, and the like number of very ſhort, awl-ſhaped ſtyles, with obtuſe ſtigmas.

5. Pericarpium conſiſts of four oval, reflexed capſules, each being compoſed of one valve, containing one cell, and opening at the upper ſuture.

6. Semen. The ſeed is ſingle, and roundiſh.

CHAP. CCXXV.

THEOBROMA, CHOCOLATE-NUT TREE.

Species.

THERE are two ſpecies of this genus, called,

1. *Cocao*, or the Chocolate-Nut Tree.

2. *Guazuma*, or the Baſtard Cedar Tree of Jamaica.

Cocao, or Chocolate Nut Tree deſcribed.

1. *Cocao*, or the Chocolate-Nut Tree. This plant is not a large-growing tree. The ſtem is robuſt, upright, four or five inches in diameter, branching, and only about ten or twelve feet high. The leaves are near a foot long, and almoſt half as broad, entire, of a thin conſiſtence, of a bright-green colour, and grow oppoſite by pairs on the branches. The flowers are numerous, and, what is remarkable, deſpiſing the youngeſt ſhoots, burſt forth from the ſides of the trunk and the oldeſt branches on ſeparate, hairy footſtalks; they are of a yellowiſh colour, and are ſucceeded by the nuts, containing the ſeeds, which afford the Chocolate.

Guazuma, or Baſtard Cedar Tree of Jamaica deſcribed.

2. *Guazuma*, or the Baſtard Cedar Tree of Jamaica. The trunk is near two feet in diameter, covered with a dark-brown furrowed bark, ſends forth numerous ſpreading branches near the top, and grows to about forty feet high. The leaves are oblong, heart-ſhaped, pointed, ſerrated, of a bright-green colour on their upper ſide, but pale and veined underneath, and grow alternately on ſhort footſtalks. The flowers are produced in bunches from the wings of the leaves; they are ſmall, and of a yellow colour; and they are ſucceeded by a roundiſh, warted fruit, which, together with the leaves, are excellent food for cattle.

Culture in this climate.

Theſe plants are propagated from ſeeds, which muſt be procured from the countries where they naturally grow. But as thoſe of the firſt ſort ſoon loſe their growing quality, it is with difficulty we can obtain plants in theſe parts. For if the ſeeds are ſown in boxes, ſoon after they are ripe in America, in order to be ſent over here, the plants will be up in a fortnight, or three weeks, and, being too tender to bear the open air in theſe parts, are generally killed on their entrance into this climate; and if the ſhoots are ſent over into England, their vegetative quality, through the length of the voyage, is generally loſt; ſo that few plants may be expected to be raiſed that way.

That there may be a better chance of obtaining theſe plants, let ſome of the faireſt and beſt nuts be gathered juſt before the ſhip is ready for ſailing; and let ſome pots be filled with the earth contiguous to that of the trees. When the ſhip is within three weeks ſail of England, let the ſeeds be ſown in the pots, and place them in ſome part of the ſhip where they may be ſafe. Immediately on their arrival, plunge them into a hot-bed of tanner's bark, give them ſlight but frequent waterings, and in a little time the plants will come up, when they muſt be ſcreened from the ſun in the heat of the day. When the plants are fit to remove, each muſt be ſet in a ſeparate pot, filled with light, but very rich earth; they muſt be then plunged into a freſh hotbed of tanner's bark, and be watered and kept ſhaded until they have taken root. After that they muſt have more air; and in the autumn they muſt be taken into the warmeſt bark ſtove, where they muſt conſtantly remain, nurſing them very carefully, and giving them frequent though ſlight waterings in the winter ſeaſon, but more frequent waterings, and plenty of free air, in hot weather in ſummer. The leaves of this tree muſt be waſhed at proper intervals, otherwiſe they will loſe their beauty by conſtantly remaining in the houſe, ſoon contract filth, and become a proper nidus for inſects, which will feed on the leaves, and deſtroy the whole plant. The ſecond ſpecies is raiſed the ſame way, but the nuts do not ſo ſoon loſe their vegetative quality; ſo that they need not be ſown until their arrival in England.

Culture in the places where they naturally grow.

The Chocolate Tree, though growing naturally between the Tropics, and in many of the hotteſt parts of America, is, nevertheleſs, cultivated for the ſake of the nuts, which bring in great revenues to thoſe parts of the world. They are generally planted in well-ſheltered places, in the manner of our Cherry-orchards, but cloſer together, the trees being of a ſmaller growth; and they are generally raiſed from the nuts, without removal. Not but theſe trees will grow, on being removed; but ſuch as have proceeded undiſturbed and uninterruptedly from the kernel, generally grow larger, ſtraighter, form more beautiful trees, and are more fertile in flowers and fruit. In about four years from the ſowing, they will produce a moderate nut, which will yearly encreaſe in proportion as the tree advances in age and ſize. The fruit is not all ripe together, but continues in ſucceſſion for a long time: About four months from the falling of the flower is a ſpace ſufficient to bring it to maturity, which is known by its becoming yellow on the ſide next the ſun. The negroes then gather them at intervals as they ripen, put them into baſkets, and take them home. The next buſineſs is to take out the nuts, and lay them in heaps, covering them with leaves, mats, or Indian reeds, and preſſing them down very cloſe with ſtones, boards, and the like; but ſtirring them, nevertheleſs, every day, to prevent their being ſpoiled through the violence of the fermentation. When this is over, they are ſpread upon cloths to dry, and when this is effected, are made into Chocolate.

Manner of making Chocolate.

The manner of making Chocolate is various in the different parts of America; though in general the kernels are roaſted in a frying-pan full of holes, then reduced to a powder, and ground between two marble-ſtones, working it with Orange-water to the conſiſtence of a paſte; it is then mixed with Sugar, Long-pepper, ſpices, &c. which are in greater or ſmaller quantities according to the taſte of the people, or cuſtom of the country. In ſome places they add Aniſe, Cloves, Cinnamon; nay, even perfumes, ſuch as Muſk, Ambergreaſe, &c. Others totally diſuſe ſuch ſpices and perfumes, and add only Long-pepper, Achiott, Vanilla, and Sugar, with which they ſweeten it according to their taſte; and it is then formed into cakes, and ſhipped off to the different parts of the world for uſe.

Titles.

Cocao.

1. *Cocao*, or Chocolate Nut Tree, is titled, *Theobroma foliis integerrimis.* Cluſius and others call it, *Cocao*; Plukenet, *Arbor cacavifera Americana*; and Caſpar Bauhine, *Amygdalis ſimilis Guatimalenſis.* It grows naturally in America.

Guazuma.

2. The Baſtard Cedar of Jamaica is titled, *Theobroma foliis ſerratis.* Plumier calls it, *Gua-*

zuma arbor ulmifolia, fructu ex purpura nigro; Plukenet, *Cenchramidia Jamaicenſis ulmifolia, fructu ovali integro verrucoſo*; and Sloane, *Alni fructu morifolia arbor, flore pentapetalo flavo.* It grows naturally in the plains of Jamaica.

Claſs and Order in the Linnæan Syſtem The characters.

Theobroma is of the Claſs and Order *Polyadelphia Pentandria*; and the characters are,

1. CALYX is a perianthium compoſed of three oval, concave, reflexed, patent, deciduous leaves.

2. COROLLA is five gibbous, five-nerved, concave, galeated petals, having a bifid, horn-like ſeta on the top of each.

The nectarium is bell-ſhaped, erect, patent; ſmaller than the petals, and conſiſts of five oval, ſpear-ſhaped, connected leaves.

3. STAMINA. The filaments are awl-ſhaped, the length of the nectarium, (into which they grow) divided into five parts at the top, and have each five antheræ, covered by the arch of the petal.

3. PISTILLUM conſiſts of a ſuboval germen, an awl-ſhaped ſtyle the length of the nectarium, and a ſimple ſtigma.

4. PERICARPIUM is a ligneous, unequal cortex, containing the ſeeds arranged in five apartments.

CHAP. CCXXVI.

THRYALIS.

THERE is but one ſpecies of this genus, called, *Thryalis.*

The plant deſcribed.

The ſtalk is ſomewhat woody, ſends forth ſeveral ſlender, taper, jointed branches, and grows to two or three feet high. The leaves are oval, entire, and grow oppoſite to each other on ſhort footſtalks. The flowers are produced in looſe ſpikes from the ends and diviſions of the branches; they are ſmall, of a yellow colour, and are ſucceeded by triangular capſules, containing the ſeeds.

Culture.

This plant is propagated by ſowing the ſeeds on a hotbed, in the ſpring. When the plants appear great care muſt be taken not to keep them too cloſe to cauſe them to draw weak, nor yet to afford them too much air, which will ſtop their growth, if not wholly deſtroy them. A ſlight ſprinkling of water muſt now and then be afforded them; and when the plants are fit to remove, they muſt be taken up with a ball of earth to each root, and planted ſeparately in ſmall pots filled with light, rich earth. They muſt be then plunged into a hotbed of tanner's bark, where they muſt be watered and ſcreened from the ſun in the heat of the day; and as they make good progreſs of growth, the glaſſes may be raiſed, and they may be wholly taken off in the day-time in very warm weather; at which time the waterings muſt be very frequent, though in ſmall quantities at a time. In the autumn they muſt be taken into a temperate bark ſtove, and managed like other plants in the ſame department.

Titles.
Braſili=
=enſis.

There being no other ſpecies belonging to this genus, it is named ſimply, *Thryalis.* Marcgrave calls it, *Fruticeſcens herba Piſonis.* It grows naturally in the Braſil Iſlands.

Claſs and Order in the Linnæan Syſtem. The characters.

Thryalis is of the Claſs and Order *Decandria Monogynia*; and the characters are,

1. CALYX is a permanent perianthium, divided into five erect, ſpear-ſhaped parts.

2. COROLLA conſiſts of five roundiſh, patent petals.

3. STAMINA are ten awl-ſhaped filaments longer than the calyx, having roundiſh antheræ.

4. PISTILLUM conſiſts of an obtuſe germen, a filiforme ſtyle the length of the ſtamina, and a ſimple ſtigma.

5. PERICARPIUM is a triquetrous, triangular, obtuſe capſule, divided into three parts.

6. SEMINA. The ſeeds are ſingle, oboval, and very ſmooth.

CHAP. CCXXVII.

TINUS.

WE have at preſent only one ſpecies belonging to this genus, called, *Tinus.*

The plant deſcribed.

The ſtem is robuſt, woody, branching, and grows to twenty feet high, or upwards. The leaves are large, and very beautiful; they are of an oblong, oval figure; ſmooth on their upper-ſide, but ſomewhat hairy, and veined underneath; and they grow alternately. The flowers are produced in branching ſpikes from the ends and ſides of the branches, and are ſucceeded by roundiſh berries, which are of a yellow colour when ripe.

Culture.

This plant is propagated by ſeeds, which may be eaſily procured from Jamaica, where the tree grows in plenty. They muſt be ſown in pots filled with light, rich earth, and plunged into a hotbed of tanner's bark. When the plants come up, the uſual tender care muſt accompany them until they are three or four inches high; they muſt be then planted ſeparately in pots filled with the like kind of light, good earth; be plunged into a hotbed of tanner's bark; and water and ſhade muſt be allowed them until they have taken root, when more air ſhould be given them by degrees, and frequent waterings, eſpecially in hot weather. In the autumn they muſt be taken into a good bark ſtove, and managed like other plants from the warm parts of the world.

Titles.
Occiden=
=talis.

There being no other ſpecies belonging to this genus, it is named ſimply, *Tinus.* Brown calls it, *Volkameria arborea, foliis oblongo-ovatis alternis ſupernè glabris, ſubtus ſubvilloſis & nervoſis, ſpicis ramoſis & terminalibus*; and Sloane, *Baccifera arbor calyculata, foliis laurinis fructu racemoſo eſculento ſubrotundo monopyreno pallidè luteo.* It grows naturally in Jamaica.

Claſs and Order in the Linnæan Syſtem. The characters.

Tinus is of the Claſs and Order *Enneandria Monogynia*; and the characters are,

1. CALYX is a monophyllous, erect, bell-

ſhaped perianthium, cut at the brim into five ſegments.

2. Corolla is one obtuſe petal, divided into five parts.

The nectarium is urceolated, ſuboval, concave, perforated at top, and occupies the center of the receptacle.

3. Stamina are nine ſhort filaments, with heart-ſhaped antheræ.

4. Pistillum conſiſts of a globular germen ſituated below the nectarium, and a ſhort, ſimple ſtyle, with three obtuſe ſtigmas.

5. Pericarpium is a roundiſh berry, containing three cells.

6. Semina. The ſeeds are ſingle, and oblong.

CHAP. CCXXVIII.

TOLUIFERA, The BALSAM of TOLU TREE.

Species.

THERE is at preſent only one ſpecies of this genus, called, Balſam of Tolu Tree.

The plant deſcribed.

The trunk is very robuſt, grows to thirty or forty feet high, is covered with a thick, rough, brown-coloured bark, and ſends out numerous branches, which ſpread themſelves every way. The leaves are pinnated, and large; the folioles are oval, oblong, pointed, ſmooth, and are arranged alternately along the midrib, to which they ſit cloſe. The flowers are produced in ſmall bunches from the wings of the leaves, growing upon ſlender footſtalks; they are of a yellow colour, and ſometimes ſhew themſelves in our ſtoves, but are not ſucceeded by ſeeds in theſe parts.

The balſam which comes from this tree is extremely fragrant to the ſmell, and warm, ſweetiſh, and ſomewhat ſharp to the taſte; it is of a yellowiſh-brown or reddiſh colour; and though tenacious at firſt, it afterwards becomes hard and brittle, and diminiſhes very little in value through age.

Its virtues are nearly the ſame with thoſe of the Balſam of Peru. It is a great corroborant, vulnerary, detergent, and ſtrengthener of the nervous ſyſtem. It is an ingredient in many compoſitions, but particularly in the Vulnerary Balſam, the Balſamic Tincture, the Pectoral Pills and Elixir.

Culture.

This famous tree is propagated here from ſeeds, procured from abroad. Theſe ſhould be ſown, as ſoon as they arrive, in pots filled with light, rich earth, and ſet in the ſtove until the ſpring. They ſhould be then taken out of the ſtove, and plunged into a good hotbed of tanner's bark; the mould muſt be kept moiſt in the pots by frequent ſprinklings of water; and when the plants appear, the uſual care attendant on the tendereſt ſeedlings muſt accompany them until they are about three or four inches high. They muſt be then potted ſeparately, be again plunged into a good bark bed, and watered and kept ſhaded until they have taken root; they muſt afterwards have more air allowed them by degrees, but muſt never be wholly expoſed to the full air. In the autumn they muſt be taken into one of the beſt bark ſtoves, where they muſt conſtantly remain, ſhifting them from time to time into larger pots, as often as they ſhall require it; keeping them very warm in winters; and affording them frequent waterings, and a due admiſſion of freſh air, in proportion to the heat of the ſeaſon in ſummer.

Titles. Balſamum.

There being no other ſpecies belonging to this genus, it is named ſimply, *Toluifera*. Caſpar Bauhine calls it, *Balſamum Tolutanum, foliis ceratiæ ſimilibus*. It grows naturally in the Spaniſh Weſt Indies.

Claſs and Order in the Linnæan Syſtem.

Toluifera is of the Claſs and Order *Decandria Monogynia*; and the characters are,

The characters.

1. Calyx is a monophyllous, bell-ſhaped perianthium, having five nearly equal indentures at the top.

2. Corolla conſiſts of five petals inſerted in the receptacle. Four of them are equal, linear, and ſomewhat longer than the calyx; but the fifth is twice as large as the others, is obcordated, and has an unguis the length of the calyx.

3. Stamina are ten very ſhort filaments, with antheræ that are longer than the calyx.

4. Pistillum conſiſts of an oblong germen, a very ſhort ſtyle, and an acute ſtigma.

5. Pericarpium . . . .

6. Semen. . . . .

CHAP. CCXXIX.

TOURNEFORTIA.

Species.

OF this genus are,

1. Twining *Tournefortia*.
2. Hairy *Tournefortia*.
3. Fetid *Tournefortia*.
4. Cymoſe *Tournefortia*.
5. Dwarf *Tournefortia*.
6. Shrubby *Tournefortia*.
7. Tree *Tournefortia*.

Twining.

1. Twining *Tournefortia*. The ſtalks are woody; ſend out ſeveral ſlender, ligneous branches from the ſides, which twiſt about the neighbouring trees, or ſhrubs, for ſupport; and grow to be fifteen or twenty feet long. The leaves are oval, ſharp-pointed, ſmooth, and grow on reflexed footſtalks. The flowers are produced in looſe branching ſpikes from the ends and ſides of the branches; they are ſmall, of a white colour, and are ſucceeded by ſmall globular berries, which are ſucculent, and of a white colour, having one or two black ſpots on each.

Hairy.

2. Hairy *Tournefortia*. The ſtalks are woody, rough, hairy, divide into many rough, hairy,

brown-coloured branches, and grow to be eight or ten feet high. The leaves are oval, of a deep-green colour on their upper ſide, much veined underneath, and grow alternately on ſhort, hairy footſtalks. The flowers are produced at the ends of the branches, in extremely branching ſpikes; they are of a white colour, and are ſucceeded by ſmall, round, ſucculent berries, of a white colour, having a ſpot or two of black on each.

Fetid, 3. Fetid *Tournefortia*. The ſtalks are woody, branching, and eight or ten feet high. The leaves are oval, ſpear-ſhaped, very rough, of a ſtrong diſagreeable odour, and grow alternately on ſhort footſtalks. The flowers terminate the branches in long, branching, pendulent ſpikes; they are of a white colour, and are ſucceeded by ſmall, globular, white, ſpotted, ſucculent fruit, containing the ſeeds.

Cymoſe, 4. Cymoſe *Tournefortia*. The ſtalks are woody, branching, and ſix or eight feet high. The leaves are oval, oblong, ſharp-pointed, naked, and entire. The flowers are produced at the ends of the branches in cymoſe ſpikes; they are of a white colour, and are ſucceeded by white, ſucculent, globular berries, marked with black ſpots.

5. Dwarf *Tournefortia*. The ſtalks are woody, ſend out a few ſlender, ligneous branches from the ſides, and grow to be two or three feet high. The leaves are oval, ſpear-ſhaped, rough, of a dark-green colour on their upper-ſide, and ſit cloſe, having no footſtalks. The flowers are produced along the ſides of the branches in ſimple, recurved ſpikes; they are of a white colour, and are ſucceeded by ſmall, pulpy, ſpotted berries, containing the ſeeds.

Shrubby, 6. Shrubby *Tournefortia*. The ſtalk is ſhrubby, branching a little, and three or four feet high. The leaves are oblong, nearly ſpear-ſhaped, white, and hoary. The flowers are produced in looſe bunches from the ends and ſides of the branches, are of a white colour, and are ſucceeded by pulpy berries like the former.

and Tree Tournefortia, deſcribed. 7. Tree *Tournefortia*. The ſtem is thick, woody, branching, and twelve or fourteen feet high. The leaves are oval, ſerrated, and grow on rough footſtalks. The flowers are produced at the ends of the branches in recurved ſpikes; they are of a white colour, and are ſucceeded by ſmall, ſucculent, globular, ſpotted berries, containing the ſeeds.

Culture. All theſe plants are propagated by ſeeds procured from abroad; and as it often happens that they are a long time before they come up, they ſhould be ſown as ſoon as poſſible after their arrival in pots filled with light, freſh earth, and plunged into the bark-bed in the ſtove, where they may remain until the ſpring of the year, keeping the mould moiſt with frequent ſprinklings of water. In the ſpring they muſt be taken out of the ſtove and plunged into a good hotbed of tanner's bark; and when the plants come up, the uſual care incumbent on tender ſeedlings muſt accompany them until they are three, four, or even five inches high, according to the height of growth of the different ſorts. They muſt be potted ſeparately, and again plunged into the bark-bed; be watered and ſhaded till they have taken root; air, of courſe, in greater plenty muſt be allowed them; and in hot-weather they muſt have a conſiderable ſhare of it, with frequent waterings; but they muſt not be taken out of the bed until the early part of the autumn, when they muſt be removed into a very warm bark-ſtove, where they muſt conſtantly remain under the care and diſcipline of the more tender kinds of foreign plants.

Titles. 1. The firſt ſpecies is titled, *Tournefortia foliis ovatis acuminatis glabris, petiolis reflexis, caule volubili.* In the *Hort. Cliff.* it is termed, *Tournefortia foliis ovatis acuminatis.* Sloane calls it, *Bryonia nigra ſuffruticoſa, racemi ramulis variè implicatis*; and Plukenet, *Virga aurea Americana fruteſcens glabra, foliis ſubtus cæſiis.* It grows naturally in Jamaica and Mexico. Volubilis.

2. The ſecond ſpecies is titled, *Tournefortia foliis ovatis petiolatis, caule hirſuto ſpicis ramoſiſſimis terminalibus.* Plumier calls it, *Pittonia hirſutiſſima et ramoſiſſima, baccis albis.* It grows naturally in the warmer parts of America. Hirsutiſſima.

3. The third ſpecies is titled, *Tournefortia foliis ovato-lanceolatis hirtis, pedunculis ramoſis, ſpicis pendulis.* In the *Hort. Cliff.* it is termed, *Tournefortia foliis ovato-lanceolatis.* Brown calls it, *Tournefortia ſcandens, foliis hirtis rugoſis ovatis, ſpicis ramoſis*; Plumier, *Pittonia racemoſa, nicotianæ foliis fœtidiſſimis*; Plukenet, *Heliotropium maximum Jamaicenſe, limonii mali folio ſupra ſcabro ſubtus lanugine ferruginea molli*; and Sloane, *Heliotropii flore frutex baccifer ramoſus, folio rugoſo fœtido maximo ſubrotundo hirſuto, fructu albo.* It grows naturally in Mexico and Jamaica. Fœtidiſſima.

4. The fourth ſpecies is titled, *Tournefortia foliis ovatis integerrimis nudis, ſpicis cymoſis.* Brown calls it, *Tournefortia fruteſcens humilis, foliis maximis oblongo-ovatis rugoſis, ſpicis pendulis rarioribus, ramulis craſſis ſulcatis*; Plumier, *Pittonia ſcandens baccis niveis nigris maculis notatis*; and Sloane, *Heliotropii flore frutex, folio maximo oblongo acuminato glabro.* It grows naturally in Jamaica. Cymosa

5. The fifth ſpecies is titled, *Tournefortia foliis lanceolatis ſeſſilibus, ſpicis ſimplicibus recurvis lateralibus.* Brown calls it, *Tournefortia reclinata diffuſa & hirſuta, foliis ovatis, ramulis rectis validis*; and Plumier, *Pittonia humilis, anchuſæ folio.* It grows naturally in the hot parts of America. Humilis.

6. The ſixth ſpecies is titled, *Tournefortia foliis ſublanceolatis incanis, caule ſuffruticoſo.* Brown calls it, *Tournefortia ſuffruticoſa, foliis incanis oblongis, fronde comoſâ*; and Sloane, *Thymelææ facie frutex maritimus tetraſpermos, flore tetrapetalo.* It grows naturally in Jamaica. Suffruticosa.

7. The ſeventh ſpecies is titled, *Tournefortia foliis ovatis ſerratis, petiolis ſpineſcentibus, ſpicis terminalibus recurvis.* Plumier calls it, *Pittonia arboreſcens chamædrifolia major*; alſo *Pittonia arboreſcens chamædrifolia minor.* It grows naturally in the Warmer America. Serrata.

Claſs and Order in the Linnæan Syſtem. *Tournefortia* is of the Claſs and Order *Pentandria Monogynia*; and the characters are,

The characters. 1. CALYX is a ſmall, permanent perianthium, divided into five awl-ſhaped parts.

2. COROLLA is one infundibuliforme petal. The tube is cylindrical, and globular at the baſe. The limb is patent, and cut into five acuminated, horrizontal ſegments.

3. STAMINA are five awl-ſhaped filaments in the mouth of the flower, having ſimple, acuminated, connivent antheræ.

4. PISTILLUM conſiſts of a globular germen, a ſimple ſtyle the length of the ſtamina, and an entire ſtigma.

5. PERICARPIUM is a globular, ſpotted berry.

6. SEMINA. The ſeeds are four, roundiſh, and acuminated obliquely.

CHAP. CCXXX.

TRAGIA.

Species. OF this genus are,

1. Twining *Tragia.*
2. Involucrated *Tragia.*
3. Mercury *Tragia.*
4. *Chamæa*, or Narrow-leaved *Tragia.*

Twining, 1. Twining *Tragia.* The ſtalks are ligneous, tough, ten or twelve feet long, and twiſt about trees or buſhes in a direction contrary to the ſun's motion. The leaves are heart-ſhaped, oblong, pointed, ſharply ſerrated, covered with ſtinging hairs, and grow alternately on longiſh footſtalks. The flowers are produced from the wings of the leaves in cluſters; they are monoecious; and the females are ſucceeded by roundiſh hiſpid capſules, containing the feeds.

Involucrated, 2. Involucrated *Tragia.* The ſtalk is upright, woody, branching but very little, and three or four feet high. The leaves are oblong, ſpear-ſhaped, ſerrated, covered with ſtinging hairs like that of the Nettle, but of a yellowiſh colour, and grow alternately. The flowers are produced in cluſters from the wings of the leaves, the females having an involucrum compoſed of five pinnatifid leaves, and which are ſucceeded by roundiſh capſules like the former.

Mercury, 3. Mercury *Tragia.* The ſtalks are ſlender, branching a little, and a foot and half high. The leaves are oval, roundiſh, ſerrated, and grow alternately on ſhort footſtalks. The flowers are produced in ſpikes from the wings of the leaves, and the females are ſucceeded by tricoccous, hiſpid capſules, containing the ſeeds.

and Chamælea, or Narrow-leaved Tragia. 4. *Chamælea*, or Narrow-leaved *Tragia.* The ſtalk is tender, branching a little, and two or three feet high. The leaves are narrow, ſpear-ſhaped, obtuſe, and entire. The flowers are collected in ſpikes ariſing from the wings of the leaves, and the females are ſucceeded by echinated capſules, in which the ſeeds are lodged.

Culture. Theſe plants are propagated by ſeeds procured from abroad, for they do not ripen in theſe parts. They muſt be ſown in pots filled with good, light earth, and plunged into a hotbed of tanner's bark. When the plants are fit to remove they muſt be potted ſeparately, be again plunged into the hotbed, where they muſt continue, with the uſual care in raiſing ſeedlings, until the autumn, when they muſt be removed into a good bark ſtove: There they muſt conſtantly remain, and have treatment ſuitable to their nature and to other tender plants.

Titles. 1. The firſt ſpecies is titled, *Tragia foliis cordatis-oblongis, caule volubili.* Brown calls it, *Tragia ſcandens, foliis haſtatis ſerratis hiſpidis*; Plumier, *Tragia alia ſcandens, urticæ folio*; alſo, *Tragia ſcandens, longo betonicæ folio*; Sloane, *Urtica racemoſa ſcandens anguſtifolia, fructu tricocco*; and Rumphius, *Funis urens.* It grows naturally in both the Eaſt and Weſt Indies. Volubilis.

2. The ſecond ſpecies is titled, *Tragia involucris femineis pentaphyllis pinnatifidis.* In the *Flora Zeylanica* it is termed, *Acalypha involucris femineis pentaphyllis pinnatifidis.* Van Royen calls it, *Croton foliis ovato-lanceolatis ſerratis hiſpidis, caule fruticoſo*; and Rheede, *Schorigeram.* It grows naturally in India. Involucrata.

3. The third ſpecies is titled, *Tragia foliis ovatis.* Plukenet calls it, *Mercurialis Maderaſpatenſis tricoccos acetabulis deſtituta*; Rheede, *Pee-cupameni*; Gronovius, *Croton foliis cordatis ſerratis petiolatis, floribus ſpicatis*; Plumier, *Manihol minima chamædrifolia*; and Sloane, *Urtica minor iners ſpicata, folio ſubrotundo ſerrato, fructu tricocco.* It grows naturally in India. Mercurialis.

4. The fourth ſpecies is titled, *Tragia foliis lanceolatis obtuſis integerrimis.* Burman calls it, *Chamælea foliis linearibus, floſculis ſpicatis, echinato fructu*; and Rheede, *Codi avanacu.* It grows naturally in India. Chamælea.

Claſs and Order in the Linnæan Syſtem. *Tragia* is of the Claſs and Order *Monoecia Triandria*; and the characters are, The characters.

I. Male Flowers.

1. Calyx is a perianthium divided into three oval, acute, plane, patent parts.
2. Corolla. There is none.
3. Stamina are three filaments the length of the calyx, having roundiſh antheræ.

II. Females.

1. Calyx is a perianthium divided into five oval, concave, acute, permanent parts.
2. Corolla. There is none.
3. Pistillum conſiſts of a roundiſh, triſulcated germen, and one erect ſtyle longer than the corolla, with a trifid, patent ſtigma.
4. Pericarpium is a roundiſh, hiſpid, tricoccous capſule, containing three cells.
5. Semina. The ſeeds are ſingle, and globular.

CHAP. CCXXXI.

TRICHILIA.

Species. THERE are three ſpecies of this genus, called,

1. Rough *Trichilia.*
2. Trifoliate *Trichilia.*
3. *Guara*, or Walnut-leaved *Trichilia.*

Rough, 1. Rough *Trichilia.* The ſtem is woody, upright, and divides into few or no branches. The leaves are pinnated, the folioles being oval, rough, and hairy. The flowers are produced in looſe ſpikes from the wings of the leaves, and are ſucceeded by roundiſh capſules, containing the ſeeds.

and Trifoliate Trichilia deſcribed. 2. Trifoliate *Trichilia.* The ſtalk is woody, branching, and ſix or eight feet high. The leaves are trifoliate, ſmooth, and of a light-green colour. The flowers are produced from the wings of the leaves on ſhort footſtalks, and are followed by roundiſh, three-cornered capſules, containing the ſeeds.

Guara, or Walnut-leaved Trichilia, deſcribed.

3. *Guara*, or Walnut-leaved *Trichilia*. The ſtalk is woody, ſends out ſeveral weak branches, and grows to be ſix or eight feet high. The leaves are pinnated, the foliole being oval, oblong, ſmooth, and of a bright-green colour. The flowers are produced in looſe branches from the wings of the leaves; they are octandrous, and have four narrow petals, together with a nectarium of the ſame length. They are of a purpliſh colour, uſually appear here in the ſummer, and often again in the autumn.

Culture.

Theſe plants are propagated by ſeeds procured from abroad. They ſhould be ſown in the ſpring in pots filled with good mould, and plunged into a hotbed of tanner's bark. When the plants are fit to remove they muſt be potted ſeparately, be again plunged into the hotbed, and duly watered, and kept ſhaded at firſt; afterwards they muſt have plenty of freſh air, eſpecially in hot weather, but it muſt be granted them by degrees; and in the autumn they muſt be taken into the bark ſtove, where they muſt conſtantly remain under the care and management of other tender plants.

Titles.

Hirta.

1. The firſt ſpecies is titled, *Trichilia foliis pinnatis ſubhirſutis, foliolis obovatis*. Brown calls it, *Trichilia ſubhirſuta, foliis pinnatis, ovatis, racemis alaribus*; and Sloane, *Euonymus caudice non ramoſo, folio alato, fructu rotundo tripyreno*. It grows naturally in Jamaica.

Trifoliata

2. The ſecond ſpecies is titled, *Trichilia foliis ternatis*. Lœfling calls it, *Trichilia Haleſia*. It grows naturally in America.

Guara.

3. The third ſpecies is titled, *Trichilia foliis pinnatis glabris, floribus octandris*. Brown calls it, *Trichilia foliis oblongo-ovatis pinnatis nitidis, racemis laxis*; Jacquin, *Melia guara floribus octandris*; and Plumier, *Guidonia, nucis juglandis foliis, major*. It grows naturally in moſt parts of the Weſt Indies.

Claſs and Order in the Linnæan Syſtem. The characters.

Trichilia is of the Claſs and Order *Decandria Monogynia*; and the characters are,

1. CALYX is a ſhort, monophyllous, tubular perianthium, indented in five parts at the top.

2. COROLLA is compoſed of five ſpear-ſhaped, patent petals.

The nectarium is cylindrical, tubular, ſhorter than the petals, and indented in five parts at the top.

3. STAMINA. There are no filaments; but ten erect antheræ riſing from the edge of the tube of the nectarium.

4. PISTILLUM conſiſts of an oboval, ſubtrilobed germen, a ſhort ſtyle, and a capitated, tridentated ſtigma.

5. PERICARPIUM is a roundiſh, ſubtrigonal capſule, formed of three valves, and containing three cells.

6. SEMINA. The ſeeds are ſingle, and baccated.

* * *

CHAP. CCXXXII.

TRIDAX, TRAILING STAR-WORT of VERA CRUZ.

Species.

THERE is at preſent only one ſpecies of this genus, called, Trailing Starwort of Vera Cruz.

The ſtalks are herbaceous, tender, hairy, lie on the ground, and ſtrike root at the joints. The leaves are oblong, acute-pointed, rough, hairy, jagged on their edges, and grow by pairs on the ſtalks. The flowers are produced from the ends of the branches on long, naked footſtalks; they are of a yellow colour, and are ſucceeded by oblong ſeeds, covered with down, which ſometimes ripen in England.

Culture.

This plant is propagated by taking off the cuttings or joints that have ſtruck root, and planting them in pots filled with good garden mould; they muſt be then watered, and plunged into the tan-bed, where they muſt be kept ſhaded until they have taken root. They muſt conſtantly remain in the ſtove, obſerving in the ſummer to allow them frequent waterings, and a due admiſſion of freſh air, eſpecially when the weather is hot.

They are alſo propagated by ſeeds. Theſe ſhould be ſown, in the ſpring, in pots filled with good, light garden mould, and plunged into a hotbed of tanner's bark. When the plants are fit to remove they muſt be potted ſeparately, be again plunged into the hotbed, where they muſt be watered and ſhaded until they have taken root; they muſt afterwards be uſed by degrees to more air, which muſt be granted them in proportion to the heat of the ſeaſon; and in the autumn muſt be taken into the bark ſtove, and managed like the other plants.

Titles.

Procumbens.

There being no other ſpecies belonging to this genus, it is termed ſimply, *Tridax*. Houſtoun calls it, *Alter Americanus procumbens, foliis laciniatis & hirſutis*. It grows naturally at Vera Cruz.

Claſs and Order in the Linnæan Syſtem. The characters.

Tridax is of the Claſs and Order *Syngeneſia Polygamia Superflua*; and the characters are,

1. CALYX. The general calyx is cylindrical and imbricated, the ſcales being oval, oblong, acute, and erect.

2. COROLLA. The compound flower is radiated. The hermaphrodite tubular florets are in the diſk; the female in the radius.

The hermaphrodite florets have each one infundibuliforme, erect petal, indented in five parts at the top.

The females are tongue-ſhaped, and cut into three ſegments, the middle one being rather narrower than the others.

3. STAMINA of the hermaphrodites are five very ſhort capillary filaments, having a cylindrical, tubular anthera.

4. PISTILLUM of the hermaphrodites conſiſts of an oblong germen, a ſetaceous ſtyle the length of the ſtamina, and an obtuſe ſtigma.

In the females it conſiſts of an oblong germen, a filiforme ſtyle the length of the corollulæ, and an obtuſe ſtigma.

5. PERICARPIUM. There is none.

6. SEMINA of the hermaphrodites are ſingle, oblong, and crowned with hairy down, which is a little longer than the calyx.

Semina in the females are ſimilar to thoſe of the hermaphrodites. The receptacle is plane and paleaceous, the paleæ being ſpear-ſhaped, and ſhorter than the ſeed.

CHAP. CCXXXIII.

TRIOPTERIS.

Species. THERE is at preſent only one known ſpecies of this genus, called, *Triopteris.*

The plant deſcribed. The ſtalks are woody, branching, weak, twiſt about neighbouring trees or buſhes for ſupport, and thereby riſe to a great height. The leaves are oval, oblong, pointed, and grow oppoſite by pairs at the joints. The flowers are produced in looſe ſpikes from the ends and ſides of the branches; they are of a yellow colour, ſhew themſelves frequently in our ſtoves, but are rarely ſucceeded by ſeeds in England.

Culture. This ſpecies is propagated by ſeeds procured from the countries where they naturally grow. The ſeeds muſt be preſerved in ſand, and, as ſoon as they arrive, muſt be ſown in pots filled with light, freſh earth, and ſet in the greenhouſe, or ſome warm place, until the ſpring. In the ſpring they muſt be plunged up to the rims in a hotbed of tanner's bark; and if the ſeeds are good, the plants will ſoon come up. Then great care muſt be taken to give them ſufficient air to prevent their growing up too weak, nor yet to grant them ſo much as to injure them, for they are very tender in that young ſtate; and if the cold external air ruſhes in too faſt upon them, it will deſtroy them. As they encreaſe in ſize, more air in proportion muſt be allowed them, and alſo frequent waterings; and when the roots have filled the pots, (for the pots ſhould be but very ſmall at firſt) they ſhould be ſhifted into larger, plunging them into the hotbed as before. Then they muſt be ſhaded and watered until they have taken root, and muſt have air granted them in proportion to the warmth of the ſeaſon; and as they advance in height, a ſtick ſhould be thruſt down by the ſide of each for its ſupport, and the glaſſes ſhould be raiſed. By this time they will be grown tolerably hardy, and will require a large ſhare of air, eſpecially when the weather is hot, and to be refreſhed with frequent and regular waterings. In the autumn they muſt be taken into a good bark ſtove, where they ſhould conſtantly remain, ſhifting them from time to time into larger pots as often as they ſhall require it, and affording them the niceſt culture due to tender plants.

Titles. There being no other ſpecies of this genus, it is termed ſimply, *Triopteris.* Jacquinus calls it, *Hiræ.* It is ſuppoſed to be the *Acer ſcandens tricoccos, foliis citri, flore luteo minore,* of Father Plumier. It grows naturally in the warm parts of America.

Jamaicensis.

Claſs and Order in the Linnæan Syſtem. *Triopteris* is of the Claſs and Order *Decandria Trigynia*; and the characters are,

The characters.

1. Calyx is a perianthium compoſed of five ſmall, oval, erect, permanent leaves.
2. Corolla conſiſts of five roundiſh, concave petals, with long ungues.
3. Stamina are ten capillary filaments, of which the exterior ones are the ſhorteſt, having roundiſh, erect antheræ.
4. Pistillum conſiſts of a roundiſh germen, and three ſimple, erect ſtyles, with bifid, obtuſe, patent ſtigmas.
5. Pericarpium. There is none.
6. Semina. The ſeeds are erect, and carinulated on the bark.

CHAP. CCXXXIV.

TRIUMFETTA.

Species. THIS genus conſiſts of two ſpecies, called,

1. *Triumfetta.*
2. *Bartramia.*

Triumfetta deſcribed. 1. *Triumfetta.* The ſtalk is woody, upright, divides into a few branches, and grows to be ſix or ſeven feet high. The leaves are roundiſh, trilobed, unequally ſerrated, being of a yellowiſh-green colour on their upper ſide, veined and downy underneath, and grow alternately on longiſh footſtalks. The flowers are produced in long cluſtered ſpikes from the ends of the branches; they are of a yellow colour, appear in July and Auguſt, and the ſeeds ripen in the autumn.

Bartramia deſcribed. 2. *Bartramia.* The ſtalk is upright, ſoft, divides into numerous branches near the top, and grows to be four feet high. The leaves are roundiſh, angular, ſoft, and hoary underneath. The flowers come out from the wings of the leaves along the upper parts of the branches; they are of a yellow colour, appear in July, and the ſeeds ripen in the autumn.

Culture. Theſe plants are propagated by ſowing the ſeeds on a hotbed in the ſpring. When the plants are about three or four inches high, each muſt be ſet in a ſeparate pot filled with light, rich earth. They muſt be then plunged into a bark bed, and watered and ſhaded until they have taken root; after that they muſt have more air, and frequent waterings, eſpecially in hot weather; and in the autumn muſt be taken into a good ſtove, plunging them up to the rims in a bark bed, conſtantly keeping them there, and managing them like other tender plants.

Titles. 1. The firſt ſpecies is titled, *Triumfetta foliis baſi emarginatis.* Plumier calls it, *Triumfetta fructu echinato racemoſo*; Jacquin, *Triumfetta floribus calyculatis, foliis ſemitrilobis*; Brown, *Triumfetta villoſa, foliis inferioribus angulato-ovatis ſerrato-dentatis, floribus ternatis: faſciculis geminatis*; Plukenet, *Lappula Bermudenſis althæoides ſpicata,*

Lappula.

ſpicata, fructu orbiculari majore; and Sloane, *Orgimonia lappacea inodora, folio ſubrotundo dentato.* It grows naturally in Jamaica and the Braſils.

Bartramia

2. The ſecond ſpecies is titled, *Triumfetta foliis baſi integris.* In the former edition of the *Species Plantarum* it is named, *Bartramia.* Plukenet calls it, *Lappula Bengalenſis tetraſpermos, ribeſii folio, echinis orbiculatis ad foliorum ortum plurimis ſeſſilibus*; Petiver, *Argimonia Maderaſpatana, folio rotundo ſingulari ſubtus incano*; and Rumphius, *Lappago Amboinica.* It grows naturally in India.

Claſs and Order in the Linnæan Syſtem. The Characters.

Triumfetta is of the Claſs and Order *Dodecandria Monogynia*; and the characters are,

1. Calyx is a perianthium compoſed of five ſpear-ſhaped, deciduous leaves, which are bearded at the point.

2. Corolla is five linear, erect, obtuſe, concave, retroflexed petals, each having an ariſta under the point.

3. Stamina are fifteen equal, riſing, awl-ſhaped, erect filaments the length of the corolla, having ſimple antheræ.

4. Pistillum conſiſts of a roundiſh germen, a ſtyle the length of the ſtamina, and a bifid, acute ſtigma.

5. Pericarpium is a globular capſule ſet on every ſide with long hooked prickles, and containing four cells.

6. Semina. The ſeeds are two, convex on one ſide, and angular on the other.

CHAP. CCXXXIV.

TURNERA.

Species.

THERE are three ſpecies of this genus, called,
1. Elm-leaved *Turnera.*
2. Nettle-leaved *Turnera.*
3. Ciſtoide *Turnera.*

Elm-leaved,

1. Elm-leaved *Turnera.* The ſtalk is woody, divides into ſeveral ſlender branches, and grows to be ſix or eight feet high. The leaves are oval, ſpear-ſhaped, rough, and biglandulous at the baſe. The flowers come out from the footſtalks of the leaves, to which they ſit cloſe; they are of a yellow colour, appear in June, July, and Auguſt, and the ſeeds ripen in Auguſt and September.

Nettle-leaved,

2. Nettle-leaved *Turnera.* The ſtalk is ſlender, hairy, and divides into a few branches near the top. The leaves are ſmall, ſpear-ſhaped, pointed, ſerrated, and have no glands at their baſe. The flowers are produced from the footſtalks of the leaves, ſitting cloſe in the manner of the former; they are of a yellow colour, appear in June and July, and the ſeeds ripen in Auguſt.

and Ciſtoide Turnera deſcribed.

3. Ciſtoide *Turnera.* The ſtalk is upright, unbranching, hairy, and about a foot high. The leaves are oblong, ſpear-ſhaped, narrow, ſinuated towards the top, of a green colour on their upper ſide, but downy underneath, and grow on ſhort footſtalks. The flowers are produced ſingly on footſtalks from the wings of the leaves; they are of a yellow colour, appear about the ſame time with the former, and the ſeeds ripen accordingly.

Culture.

All theſe plants are of ſhort duration, the firſt ſeldom laſting more than two years, and the two laſt may be brought to flower and perfect their ſeeds in one, ſoon after which they generally decay: But as the firſt requires a warm ſtove to preſerve it through the winter, it may not be amiſs to ſow the ſeeds of the other two with it late in the ſpring; or if they be ſown a month after, to prevent their being brought too early into flower, it will be the better.

They muſt be ſown on a moderate hotbed, and when the plants are fit to remove muſt be potted ſeparately, and again plunged into a hotbed of tanner's bark; they muſt be watered and ſhaded at firſt, and in the autumn muſt be taken into the bark ſtove, where they will flower, and perfect their ſeeds the ſummer following.

Titles.

Ulmifolia

1. The firſt ſpecies is titled, *Turnera floribus ſeſſilibus petiolaribus, foliis biglanduloſis.* In the *Hort. Cliff.* it is termed, *Turnera foliis ſerratis, petiolis floriferis.* Plumier calls it, *Turnera fruteſcens ulmifolia*; Sloane, *Ciſtus urticæ folio, flore luteo, vaſculis trigonis*; and Martin, *Turnera fruteſcens, folio longiore & mucronato.* It grows naturally in Jamaica, and many of the warm parts of America.

Pumilea

2. The ſecond ſpecies is titled, *Turnera floribus ſeſſilibus petiolaribus, foliis eglanduloſis.* Brown calls it, *Pumilea maxima hirſuta, foliis anguſtis profunde ſerratis*; Petiver, *Chamæciſtus luteus, foliis parvis ſerratis*; and Sloane, *Chamæciſtus urticæ folio, flore luteo.* It grows naturally in Jamaica.

Cistoides

3. The third ſpecies is titled, *Turnera floribus pedunculatis axillaribus, foliis apice ſerratis.* Brown calls it, *Pumilea ſubhirſuta ſimplex, foliis linearibus crenatis*; Boerhaave, *Helianthemoides*; Plumier, *Helianthemum betonicæ folio, caule hirſuto*; and Sloane, *Chamæciſtus caule hirſuto, folio oblongo anguſto ſinuato, flore luteo pediculo inſidente.* It grows naturally in the hot, moiſt parts of America.

Claſs and Order in the Linnæan Syſtem. The Characters.

Turnera is of the Claſs and Order *Pentandria Trigynia*; and the characters are,

1. Calyx is a monophyllous, bell-ſhaped, deciduous perianthium. The tube is oblong, erect, cylindrical, and angular. The limb is erect, and divided into five ſpear-ſhaped parts, which are the ſame length as the tube.

2. Corolla conſiſts of five obcordated, ſharp-pointed, plane, erect, patent petals, having narrow ungues inſerted in the tube of the calyx.

3. Stamina are five awl-ſhaped filaments ſhorter than the corolla, and inſerted in the tube of the calyx, having acuminated, erect antheræ.

4. Pistillum conſiſts of a conical germen, and three filiforme ſtyles the length of the ſtamina, with capillary, multifid ſtigmas.

5. Pericarpium is an oval, trivalved capſule, containing one cell. The receptacles are linear, and annexed longitudinally to the valves.

6. Semina. The ſeeds are many, oblong, and obtuſe.

CHAP.

CHAP. CCXXXVI.

VARRONIA.

Species. OF this genus are,

1. Lineated *Varronia.*
2. Bullated *Varronia.*
3. Globoſe *Varronia.*
4. *Varronia* of Curaſſao.
5. White *Varronia.*

Lineated, 1. Lineated *Varronia.* The ſtalk is woody, ſlender, ſmooth, divides into ſeveral ſmall branches, and grows to about ſix or eight feet high. The leaves are ſpear-ſhaped, rough on their upper-ſide, hairy underneath, and grow alternately on ſhort footſtalks. The flowers come out in globular bunches from the ſides of the branches, their footſtalks growing to thoſe of the leaves; they are of a yellow colour, ſhew themſelves in the autumn, and frequently great part of the winter, and are ſucceeded by the berries, each containing one ſeed.

Bullated, 2. Bullated *Varronia.* The ſtalk is woody, divides into ſeveral branches, and grows to be five or ſix feet high. The leaves are oval, veined, and very rough. The flowers are produced in unequal, roundiſh ſpikes from the upper parts of the branches; and are ſucceeded by roundiſh berries, each containing a nut of four cells.

and Globoſe Varronia, 3. Globoſe *Varronia.* The ſtalk is woody, and dichotomous. The leaves are ſpear-ſhaped, oblong, and grow oppoſite to each other. The flowers are collected in equal, globular ſpikes at the diviſions of the branches, which, falling away, are ſucceeded by the like kind of fruit with the former.

Varronia of Curaſſao, 4. *Varronia* of Curaſſao. The ſtalk is woody, divides into ſeveral ligneous branches, and grows to be five or ſix feet high. The leaves are ſpear-ſhaped, oblong, rough, ſtudded, and grow alternately. The flowers are collected in oblong ſpikes at the ends of the branches; they are of a white colour, and are ſucceeded by long berries, each including a roundiſh nut.

and White Varronia, deſcribed. 5. White *Varronia.* The ſtalk is woody, divides into many branches, and grows to be ſix or eight feet high. The leaves are heart-ſhaped, and ſomewhat reſemble thoſe of the Alder, or Hazel Nut-tree. The flowers are produced in cymoſe bunches from the ends of the branches, and are ſucceeded by the fruit, which is of a white colour when ripe.

Culture. All theſe plants are raiſed by cuttings, tho' ſome more readily ſtrike root than others. They muſt be planted in pots filled with good garden mould, and plunged into a hotbed of tanner's bark: Then they muſt be watered and ſhaded at firſt, be uſed by degrees to a great ſhare of air, and in the autumn be taken into a temperate bark ſtove, where they muſt remain under the care and management of tender plants.

They are alſo raiſed by ſeeds. Theſe muſt be procured from abroad, and ſown in a good hotbed in the ſpring; and when the plants are fit to remove, they muſt be potted ſeparately, and managed like the cuttings.

Titles. 1. The firſt ſpecies is titled, *Varronia foliis lanceolatis lineatis, pedunculis lateralibus petiolo adnatis, ſpicis globoſis.* In the former edition of the *Species Plantarum* it is termed, *Lantana foliis alternis, floribus corymboſis.* Plukenet calls it, *Ulmi anguſtifoliæ facie baccifera Jamaicenſe, foliis ſupernè ſcabris, ſubtus villoſis, floribus flavis perpuſillis, fructu botryoide monoſpermo.* It grows naturally in America. Lineata.

2. The ſecond ſpecies is titled, *Varronia foliis ovatis venoſo-rugoſis, ſpicis globoſis.* Jacquin calls it, *Varronia ſpicis ſubrotundis inæqualibus corollis hypocrateriformibus.* It grows naturally in America. Bullata.

3. The third ſpecies is titled, *Varronia foliis lanceolato-oblongis, caule dichotomo, pedunculis axillaribus elongatis nudis, ſpicis globoſis.* Jacquin calls it, *Varronia ſpicis æqualibus globoſis.* It grows naturally in America. Globosa.

4. The fourth ſpecies is titled, *Varronia foliis lanceolatis, ſpicis oblongis.* In the former edition of the *Species Plantarum* it is termed, *Lantana foliis alternis, ſpicis oblongis.* Brown calls it, *Varronia aſſurgens ſarmentoſa, foliis & capitulis oblongis*; and Sloane, *Periclymenum rectum, ſalviæ folio rugoſo majore oblongo bullato, flore albo, fructu longiori.* It grows naturally in America. Curassavica.

5. The fifth ſpecies is titled, *Varronia foliis cordatis, floribus cymoſis.* Commeline calls it, *Meſpilus Americana, alni vel coryli foliis, fructu mucaginoſo albo.* It grows naturally in America. Alba.

Claſs and Order in the Linnæan Syſtem. *Varronia* is of the Claſs and Order *Pentandria Monogynia*; and the characters are,

The characters.

1. CALYX is a monophyllous, tubular, permanent perianthium, divided into five recurved ſegments.

2. COROLLA is monopetalous, tubular, and cylindrical. The limb is divided into five ſpreading parts.

3. STAMINA are five awl-ſhaped filaments the length of the corolla, having oblong, incumbent antheræ.

4. PISTILLUM conſiſts of an oval germen, a filiforme ſtyle the length of the corolla, and four ſetaceous ſtigmas.

5. PERICARPIUM is an oval, free, unilocular drupe, included within the calyx.

6. SEMEN. The ſeed is a roundiſh nut, containing four cells.

CHAP. CCXXXVII.

VERBENA, VERVAIN.

THE more tender ſpecies of this genus are,

Species.

1. *Stæchas*-leaved Vervain.
2. Germander-leaved Vervain.
3. Mexican Vervain.
4. Buenos Ayres Vervain.
5. Jamaica Vervain.
6. Indian Vervain.

Stæchas-leaved,

1. *Stæchas*-leaved Vervain. The ſtalk is woody, branching, and five or ſix feet high. The leaves are ſpear-ſhaped, folded and ſerrated on their edges, and grow oppoſite by pairs on ſhort footſtalks. The flowers are collected into oval ſpikes, ariſing from the wings of the ſtalks, on long, naked footſtalks; they appear in the autumn, and ſometimes the ſeeds ripen in England.

Germander-leaved,

2. Germander-leaved Vervain. The ſtalks are ligneous, branching, and about two or three feet high. The leaves are oval, obtuſe, ſharply indented on their edges, of a light-green colour, and ſtand upon ſhort footſtalks. The flowers come out in looſe ſpikes, from the ends and ſides of the branches, on long, ſlender, naked footſtalks; they are ſmall, and of a bright-blue colour, appear in the autumn, and ſometimes the ſeeds ripen in England.

Mexican,

3. Mexican Vervain. The ſtalk is branching and four-cornered, ſends forth branches by pairs, and grows to be five or ſix feet high. The leaves are heart-ſhaped, oblong, rough, ſerrated, of a light-green colour, and grow oppoſite by pairs on very ſhort footſtalks. The flowers come out from the ends of the branches in looſe ſpikes; they are ſmall, and of a pale-blue colour, appear in Auguſt and September, and are frequently ſucceeded by ripe ſeeds in our gardens.

Buenos Ayres,

4. Buenos Ayres Vervain. The ſtalks are ſquare, ſend forth branches by pairs, and grow to be five or ſix feet high. The leaves are ſpear-ſhaped, ſerrated, of a pale-green colour, and embrace the ſtalks with their baſe. The flowers come out in cluſtered ſpikes from the tops of the ſtalks; they are of a blue colour, appear chiefly in September and October, and are rarely ſucceeded by ripe ſeeds in our gardens.

Jamaica,

5. Jamaica Vervain. The ſtalk is upright, rough, ſquare, branching, and two feet high. The leaves are oval, obtuſe, ſerrated, and grow oppoſite by pairs on the joints. The flowers come out from the tops of the ſtalks in very long, fleſhy, and almoſt naked ſpikes; they are of a blue colour, appear in July and Auguſt; and the ſeeds ripen in the autumn.

and Indian Vervain deſcribed.

6. Indian Vervain. The ſtalks of this plant are ſmooth, and almoſt two feet high. The leaves are ſpear-ſhaped, oval, obliquely indented, ſmooth, and grow oppoſite by pairs at the joints. The flowers come out from the ends of the ſtalks, in long, naked, fleſhed ſpikes; they are of a blue colour, appear in July and Auguſt, and the ſeeds ripen in the autumn.

Moſt of theſe ſpecies muſt be brought forward ſo as to flower and perfect their ſeeds in one year; but if they are leſs forward, they muſt be removed into a temperate ſtove in the autumn. They may be continued for two or three years, eſpecially the firſt four ſorts, which in their native country are perennial plants.

Culture.

The ſeeds muſt be ſown in the ſpring in a moderate hotbed; and when the plants are fit to remove, let each be planted in a ſeparate pot, and each pot be plunged up to the rim in a hotbed. The plants muſt be ſhaded and watered until they have taken root; afterwards let them have plenty of air, as the weather will permit; and in the autumn let them be removed into the ſtove, to be treated like tender ſtove plants, until they have flowered and perfected their ſeeds for a ſucceſſion.

Titles.

1. *Stæchas*-leaved Vervain is titled, *Verbena diandra, ſpicis ovatis foliis lanceolatis, ſerrato-plicatis, caule fruticoſo.* Vaillant calls it, *Sherardia nodiflora, ſtæchadis ſerratifolii folio*; and Plumier, *Lavandula, foliis crenatis latioribus, Americana fruteſcens.* It grows naturally in moſt parts of the Weſt Indies. Stæchadifolia.

2. Germander-leaved Vervain is titled, *Verbena diandra, ſpicis laxis, calycibus alternis priſmaticis truncatis ariſtatis, foliis ovatis obtuſis.* Sloane calls it, *Verbena minima, chamædryos folio*; and Plumier, *Verbena ſcutellariæ ſ. caſſidæ folio, diſpermos Americana.* It grows naturally in Jamaica. Priſmatica.

3. Mexican Vervain is titled, *Verbena diandra, ſpicis laxis, calycibus fructus reflexis rotundato-didymis hiſpidis.* Dillenius calls it, *Verbena Mexicana, trachelii folio, fructu aparines.* It grows naturally in Mexico. Mexicana.

4. Buenos Ayres Vervain is titled, *Verbena tetrandra, ſpicis faſciculatis, foliis lanceolatis amplexicaulibus.* Van Royen calls it, *Verbena foliis lanceolatis, floribus congeſtis faſtigiatis*; and Dillenius, *Verbena Bonarienſis altiſſima, lavendulæ Canarienſis folio, ſpicâ lavendulæ.* It grows naturally at Buenos Ayres. Bonarienſis.

5. Jamaica Vervain is titled, *Verbena diandra, ſpicis longiſſimis carnoſis nudis, foliis ſpatulato-ovatis ſerratis, caule hirto.* Van Royen calls it, *Verbena foliis obtuſe ovalibus, ſpicâ carnoſâ nudâ*; and Sloane, *Verbena folio ſubrotundo ſerrato, flore cæruleo.* It grows naturally in Jamaica and the Caribbees. Jamaicenſis.

6. Indian Vervain is titled, *Verbena diandra ſpicis longiſſimis carnoſis nudis, foliis lanceolato-ovatis obliquè dentatis, caule lævi.* It grows naturally in Ceylon. Indica.

CHAP.

CHAP. CCXXXVIII.

VINCA, PERIWINKLE.

Species.

A VERY elegant ſpecies of this genus preſents itſelf for the Stove, called, The Crimſon Periwinkle.

The plant deſcribed.

The ſtem is erect, woody, branching, covered with a brown bark, and the plant grows to about a yard high. The leaves are oblong, oval, entire, firm, gloſſy, of a deep-green colour, and grow by pairs on the branches. The flowers come out on ſhort footſtalks, and adorn the plant in great plenty; they are large, the tube being long, and the ſegments of the brim broad and ſpreading; their upper part is an elegant crimſon, and on the back-part they are white, and ſometimes of a pale red colour; they make their appearance early in the ſpring, and often continue in ſucceſſion until the end of autumn; before which time good ſeeds from the firſt-blown flowers may be collected.

Culture.

This plant is propagated by cuttings and ſeeds. The cuttings ſhould be planted in pots in any of the ſummer months, and the pots ſhould be plunged up to the rims in the bark-bed; then they muſt be ſhaded, and frequently watered, though in ſmall quantities at a time, and they will ſoon ſtrike root. When this is effected, they muſt have more air; and if the weather is very hot, they may be ſet abroad in a warm, well-ſheltered place until September, when they ſhould be removed into the cooleſt ſtove; for a ſlight degree of heat only is better for theſe plants than a greater.

This ſpecies is alſo propagated by ſeeds, and by this method the beſt plants are to be raiſed. The ſeeds ſhould be ſown on a hotbed in the ſpring; and when the plants come up, they muſt have air to prevent their being drawn up weak, and muſt now and then be only ſprinkled with water that has been in the ſtove a day or two. From this time, the greateſt nicety is required to give them a due ſhare of water and air. Theſe plants are very ſucculent and tender at firſt; and it is as they advance in age that they proportionably become woody; ſo that if in this tender, ſucculent ſtate they have too much water, they will entirely be rotted; if too much air, killed; and if too little air, they will ſoon draw weak, become ſickly, and hardly ever after be made good plants: For which reaſons the ſtricteſt care of the Gardener muſt attend them to regulate thoſe things, as the heat of the bed, the weather, and the ſtate of the plants ſhall require. When the heat of the bed is abated, it may be renewed by freſh lining with freſh dung; and by ſuch time as that cools, the plants will be fit to remove; for I am by no means for having them ſhifted when very young, as being for the moſt part too tender for the operation. When they are removed, each ſhould be ſet in a ſeparate pot; the pots ſhould be plunged into a ſecond hotbed; and the plants ſhaded and watered until they have taken root. When this is effected, they muſt have more air in proportion; and if the weather is very hot, the repetition of watering muſt be the greater. From this time the glaſſes muſt be gradually raiſed, and finally taken off; but it will not be adviſeable to take the plants out of the bed. There let them remain until the end of ſummer, enjoying the full benefit of the ſun and air in all mild, warm, and favourable weather; but conſtantly covering them with the glaſſes in cold, rainy weather, and damp, dull nights: Your plants by this means will advance without impediment to their beauty and perfection. In the autumn they ſhould be removed into the ſtove; and every ſummer they may in hot weather be ſet abroad with other tender plants. In the ſtove they will often begin flowering by January, where they will be highly ornamental, and ſhew themſelves deſerving the beſt management and care.

Titles.

Rosea

This ſpecies is titled, *Vinca caule fruteſcente erecto, floribus geminis ſeſſilibus, foliis oblongis petiolis baſi bidentatis.* In Miller's Dictionary it is termed, *Vinca foliis oblongo-ovatis integerrimis, tubo floris longiſſimo, caule ramoſo fruticoſo.* It grows naturally in the iſlands of Madagaſcar and Java.

* * *

CHAP. CCXXXIX.

VITIS, The VINE.

Species.

THERE may be preſerved in the Stove,
1. The Wild Indian Grape.
2. Trifoliate Indian Grape.

The Wild

1. The Wild Indian Grape is a climber of conſiderable height. The branches are ſlender, and their branching tendrils lay hold on every thing that is near them. The leaves are heart-ſhaped, hairy on their under-ſide, and their edges are indented. The flowers are inconſiderable, like thoſe of the Common Vines; they grow in cluſters like them, and are ſucceeded by round berries called Indian Grapes, which with us are not eatable.

and Trifoliate Indian Grape deſcribed.

2. Trifoliate Indian Grape is another climber of conſiderable height. The leaves are trifoliate, each being compoſed of three ſmall leaves, which are of a roundiſh figure, and are ſerrated on their edges. The whole plant is but of ſmall beauty; but a few of them may be admitted, for variety, into a large collection of plants.

Culture.

Theſe plants are eaſily propagated by planting the cuttings in pots filled with good, light earth; theſe ſhould be plunged into the bark-bed, and be well watered and ſhaded until they have taken root. When you find they are in a growing ſtate, and have made ſome conſiderable ſhoots, you ſhould place ſticks for their ſupport; to theſe you muſt from time to time train them; and, when they get as high as your room will allow, you muſt ſhorten their leading branches. If you would chuſe to have them grow ſtrong, they ſhould be ſhortened every year to within two or three eyes of the laſt year's wood; but this muſt not be done with a view to their fruit, for none will ripen in our climate, though in a ſtove. They muſt from time to time be watered, and every two years ſhould be ſhifted into freſh moulds, and in rather larger-ſized pots. They will require very little water in the winter time, and their ſituation ſhould be in the cooleſt ſtove; for they only require a ſmall degree of artificial heat to cauſe them to flouriſh well with others.

They may be alſo propagated by ſeeds. Theſe ſhould be procured from India, and ſhould be ſown thinly in pots filled with light, rich earth. The pots ſhould be immediately plunged into the bark-bed; and when the plants appear, they ſhould be ſhaded from the violent heat of the ſun. They muſt be now and then ſprinkled with water, and a due admiſſion of air muſt be granted them; and they will in a little time make conſiderable progreſs. When they begin to crowd each other, they ſhould be ſhaken out of the mould, and each ſhould be ſet in its own ſeparate pot, filled with the like kind of freſh earth. They ſhould be then watered, plunged up to the rims in the bed, and the plants ſhaded until they have taken root. This will be in a very little time, and their management there may be the ſame as that of the cuttings.

Titles. 1. The Wild Indian Grape is titled, *Vitis foliis cordatis dentatis ſubtus villoſis, cirrhis racemiferis.* Indica It is, *Vitis ſylveſtris Indica, acinis rotundis*, Raj. Dendr. 67. It is a native of India.

2. Trifoliate Indian Grape is titled, *Vitis foliis ternatis; foliolis ſubrotundis ſerratis.* Trifolia. It is, *Vitis pearme doorica, foliis ternis ſubrotundis ſerratis*, Raj. Dendr. 68. It grows naturally in India.

CHAP. CCXL.

VOLKAMERIA.

OF this genus there are two ſpecies in the Stove, viz.

Species.
1. Unarmed *Volkameria.*
2. Prickly *Volkameria.*

Unarmed 1. Unarmed *Volkameria.* The ſtalks are ligneous, weak, covered with a white bark, and grow to twelve or fourteen feet high. The leaves are oval, ſpear-ſhaped, ſmooth, of a bright-green colour, and grow oppoſite by pairs on ſhort footſtalks. The flowers come out from the ends and ſides of the ſtalks in flat bunches; they are of a white colour, and finely ſcented; they appear in July, Auguſt, and September; but are not ſucceeded by ſeeds in England.

and Prickly Volkameria deſcribed. 2. Prickly *Volkameria.* The ſtalk is woody, branching, ten or twelve feet high, and covered with a white bark. The leaves are oval, ſpear-ſhaped, ſmooth, and the lower ones grow in cluſters; but the upper ones are placed oppoſite, and under them are two ſmall, crooked ſpines. The flowers come out in ſmall bunches from the wings of the leaves at the upper parts of the branches; they are of a white colour, and appear great part of the ſummer months; but are rarely ſucceeded by ſeeds in England.

Culture. Theſe plants are propagated by planting the cuttings, in any of the ſummer months, in pots filled with light, rich earth. The pots muſt be then plunged up to the rims in the bark-bed; the cuttings muſt be watered and kept ſhaded until they have taken root; after that they muſt have more air; and in the autumn they muſt be removed into the ſtove. The firſt ſort is tolerably hardy, will thrive in the cooleſt ſtove in winter, and may be ſet abroad in ſummer; but the ſecond ſhould have a good ſtove to preſerve it through the winter, and cauſe it to flower ſtrong the ſummer following.

Titles. 1. The firſt ſpecies is titled, *Volkameria ramis inermibus.* Inermis. Rumphius calls it, *Jaſminum litoreum*; and Plukenet, *Periclymeni ſimilis myrtifolia arbor Maderaſpatenſis.* It grows naturally in India.

2. The ſecond ſpecies is titled, *Volkameria ſpinis petiolorum rudimentis.* Aculeata. Brown calls it, *Clerodendrum fruticoſum ſpinoſum, foliis inferioribus confertis; ſuperioribus oppoſitis, pedunculis tripartitis trifloris alaribus*; Amman, *Duglaſſia ſpinoſa, liguſtri folio*; Plumier, *Liguſtrum aculeatum, fructu teſticulato*; and Sloane, *Paliuro affinis liguſtrifolia ſpinoſa, flore monopetalo difformi.* It grows naturally in Jamaica and Barbadoes.

Claſs and Order in the Linnæan Syſtem. *Volkameria* is of the Claſs and Order *Didynamia Angioſpermia*; and the characters are,

The characters. 1. Calyx is a monophyllous, turbinated perianthium, indented in five acute points at the top.

2. Corolla is one ringent petal; the tube is cylindrical, and twice the length of the calyx; the limb is plane, and divided into five nearly equal ſegments.

3. Stamina are four very long, filiforme filaments, with ſimple antheræ.

4. Pistillum conſiſts of a four-cornered germen, a filiforme ſtyle nearly the length of the ſtamina, and a bifid ſtigma.

5. Pericarpium is a roundiſh, quadriſulcated berry, containing two cells.

6. Semen. The ſeed is a ſingle, ſulcated, bilocular nut.

CHAP. CCXLI.

URENA.

OF this genus there are three ſpecies in the Stove, viz.

Species.

1. Angular-leaved *Urena.*
2. Sinuated *Urena.*
3. Procumbent *Urena.*

Angular-leaved, 1. Angular-leaved *Urena.* The ſtalk is woody, upright, branching a little, and grows to about two feet high. The leaves are roundiſh, angular, of a good green colour on their upper ſide, and grow on longiſh footſtalks. The flowers are produced ſingly from the wings of the leaves, ſitting cloſe; they are of a roſe colour, appear in July, continue in ſucceſſion for many months, and afford plenty of good ſeeds for encreaſe.

Sinuated, 2. Sinuated *Urena.* The ſtalk is woody, upright, hairy, branching, and grows to about two or three feet high. The leaves are roundiſh, hairy, deeply ſinuated, and cut into many ſegments. The flowers are produced ſingly from the wings of the leaves, ſitting cloſe; they are large, of a pale-red near the extremity, but of a deep-red or blood colour in the center; they appear in July, Auguſt, and September, and are ſucceeded by ripe ſeeds in ſucceſſion.

and Procumbent Urena deſcribed. 3. Procumbent *Urena.* The ſtalk is woody, procumbent, and divides into numerous branches, which, lying on the ground, ſtrike root at the joints. The leaves are nearly heart-ſhaped, undivided, ſerrated, ſmooth, and of a good green colour on their upper ſide. The flowers are produced from the wings of the ſtalks; they are large, of a pale-red colour, having deeper bottoms; they appear about the ſame time with the former, and the ſeeds ripen accordingly.

Culture. Theſe plants are raiſed by ſowing the ſeeds on a ſlight hotbed in the ſpring; and when the plants are fit to remove, they muſt be planted ſeparately in pots, and plunged into a hotbed of tanner's bark: They muſt be watered and ſhaded at firſt; but care muſt be obſerved all along not to force them too much, as it will cauſe them to flower the firſt ſummer; and then the plants are generally weak, bad-coloured, and the ſeeds ripen badly. Let them therefore have as much air as poſſible all the remaining part of the ſummer, and regular ſupplies of water; and in the autumn let them be taken into a very temperate bark-ſtove; then, the ſummer following, they will flower ſtrong, aſſume that healthy garb Nature deſigned them to wear, continue in beauty a long time, and afford plenty of good ſeeds for a ſucceſſion. Theſe plants are of ſhort duration, ſeldom laſting longer than two or three years; ſo that the ſtock ſhould be kept up by ſowing freſh ſeeds at intervals accordingly.

Titles. 1. The firſt ſpecies is titled, *Urena foliis angulatis.* Dillenius calls it, *Urena Sinica, Xanthii facie*; and Breynius, *Trifolio adfinis Indiæ Orientalis, Xanthii facie.* It grows naturally in China. Lobata.

2. The ſecond ſpecies is titled, *Urena foliis ſinuato-palmatis; ſinubus obtuſis.* Plukenet calls it, *Alcea Indica fruteſcens, foliis in lacinias variè diſſectis*; alſo, *Alcea Indica fruteſcens*; and Burman, *Malvinda foliis inferioribus multifidis, ſuperioribus inciſis, flore ſolitario.* Sinuata.

3. The third ſpecies is titled, *Urena foliis haſtato-ſubcordatis indiviſis ſerratis, caule procumbente.* It grows naturally in China. Procumbens.

Urena is of the Claſs and Order *Monadelphia Polyandria*; and the characters are,

Claſs and Order in the Linnæan Syſtem. The characters.

1. Calyx is a double perianthium; the outer is one leaf, cut into five broad ſegments; the interior perianthium is compoſed of five narrow, angular, permanent leaves.

2. Corolla conſiſts of five oblong petals, broad at the top, but narrow at the baſe, where they are joined together.

3. Stamina are numerous filaments which coaleſce into a cylinder at the bottom, but are looſe upwards, having roundiſh antheræ.

4. Pistillum conſiſts of a roundiſh, pentagonal germen, a ſimple ſtyle the length of the ſtamina, and ten capitated, hairy, reflexed ſtigmas.

5. Pericarpium is a roundiſh, echinated, pentangular capſule, containing five cells.

6. Semina. The ſeeds are ſingle, roundiſh, angular, and compreſſed.

CHAP. CCXLII.

WALTHERIA.

THERE are three ſpecies of this genus, called,

Species.

1. American *Waltheria.*
2. Indian *Waltheria.*
3. Narrow-leaved *Waltheria.*

American, 1. American *Waltheria.* The ſtalk is ligneous, ſoft, hairy, ſends out a few branches from the ſides, and grows to be two or three feet high. The leaves are oval, ſoft, hairy, ſerrated, and grow alternately. The flowers are collected in roundiſh bunches, growing on footſtalks at the upper parts of the branches; they are of a yellow colour, appear in July and Auguſt, and the ſeeds ripen in the autumn.

Indian, 2. Indian *Waltheria.* The ſtalk is woody, ſoft, divides into a few ſoft, woolly branches, and grows to be eight or ten feet high. The leaves are oval, oblong, obtuſe, ſerrated, downy, and ſoft to the touch. The flowers are collected in roundiſh heads or cluſters at the wings of the leaves, ſitting cloſe, having no footſtalks; they are of a yellow colour, appear in June, July, and Auguſt, and often continue in ſucceſſion until the winter.

and Narrow-leaved Waltheria deſcribed. 3. Narrow-leaved *Waltheria.* The ſtalk is ligneous, hairy, and ſix or eight feet high. The leaves are ſpear-ſhaped, narrow, ſerrated, hairy, and have many ſtrong veins diverging from the mid-rib to the ſides. The flowers are produced in pedunculated cluſters from the wings of the leaves; they are of a yellow colour, appear great part of the ſummer, and afford plenty of ſeeds for a ſucceſſion.

Culture. The ſeeds of all theſe ſorts ripen very well in England; and by theſe they are raiſed. They ſhould be ſown late in the ſpring on a ſlight hotbed; and when the plants are fit to remove, they muſt be potted ſeparately, and plunged into a moderate hotbed of tanner's bark: Here they muſt be watered and kept ſhaded at firſt, and afterwards muſt have plenty of freſh air, eſpecially when the weather is hot. In the autumn they muſt be taken into the bark-ſtove for their winter lodgings, and the ſummer following they will flower, and perfect their ſeeds. Theſe plants ſometimes continue three or four years, but are always in greateſt beauty the ſecond year from ſeeds; ſo that whoever is deſirous of having them in perfection, ſhould be careful to keep up the ſtock by ſowing the ſeeds at proper intervals.

Titles. Americana. 1. The firſt ſpecies is titled, *Waltheria foliis ovalibus plicatis ſerrato-dentatis, capitulis pedunculatis.* In the *Hort. Cliff.* it is termed, *Waltheria foliis cordato-ovatis ſerratis.* Herman calls it, *Althææ ſimilis Americana, flore luteo*; Plukenet, *Betonica arboreſcens, foliis amplioribus*; and Breynius, *Althæa Americana pumila, flore luteo ſpicato*; and Iſnard, *Monoſperm-Althæa arboreſcens villoſa, folio majore.* It grows naturally in moſt of the warmeſt parts of America.

Indica. 2. The ſecond ſpecies is titled, *Waltheria foliis ovatis ſerratis plicatis, capitulis ſeſſilibus.* In the *Hort. Cliff.* it is termed, *Melochia foliis oblongis obtuſis ſerratis tomentoſis, floribus confertis.* Plukenet calls it, *Betonica arboreſcens, villoſis foliis profundè venoſis, floribus ex alis foliorum glomeratis.* It grows naturally in India.

Angustifolia. 3. The third ſpecies is titled, *Waltheria foliis lanceolatis ſerratis, capitulis pedunculatis.* Iſnard calls it, *Monoſperm-Althæa arboreſcens villoſa, flore minore*; and Plukenet, *Betonica arboreſcens Maderaſpatana villoſa, foliis profundè villoſis.* It grows naturally in America.

Claſs and Order in the Linnæan Syſtem. The characters. *Waltheria* is of the Claſs and Order *Monadelphia Pentandria*; and the characters are,

1. CALYX is a monophyllous, cyathiforme, permanent perianthium, cut at the brim into five acute ſegments.

2. COROLLA conſiſts of five obcordated, ſpreading petals.

3. STAMINA are five ſhort filaments, with ſimple, diſtinct antheræ.

4. PISTILLUM conſiſts of an oval germen, a filiforme ſtyle longer than the ſtamina, and penicillated ſtigma.

5. PERICARPIUM is an oboval capſule, formed of two valves, and containing one cell.

6. SEMEN. The ſeed is ſingle, obtuſe, and broadeſt near the top.

CHAP. CCXLIII.

WEINMANNIA.

Species. THERE is at preſent only one ſpecies of this genus, called, *Weinmannia.*

The plant deſcribed. The ſtalk is ſhrubby, upright, three or four feet high, and ſends out branches oppoſite to each other from the ſides. The leaves are pinnated, roundiſh, and ſerrated on their edges. The flowers terminate the branches in looſe ſpikes or bunches; but are rarely ſucceeded by ſeeds in England.

Culture. This plant is propagated by ſeeds, which may be eaſily procured from Jamaica, where the ſhrub naturally grows. They muſt be ſown in pots filled with light garden mould, and plunged into a hotbed of tanner's bark. When the plants are fit to remove, they muſt be planted ſeparately in pots filled with the like kind of light, freſh earth, and plunged into a hotbed of tanner's bark. The uſual care of watering and ſhading muſt be obſerved until they have taken root, when they ſhould be gradually uſed to bear a large ſhare of air; but they are too tender to be ſet abroad in the full air. In the autumn they muſt be taken into a pretty good bark-ſtove, and managed like other tender plants.

Titles. Pinnata. There being no other ſpecies belonging to this genus, it is termed ſimply, *Weinmannia.* Brown calls it, *Windmannia fruticoſa, foliis ſubrotundis ſerratis per pinnas cordato-alatas, racemis terminalibus, pinnis & ramis oppoſitis.* It grows naturally in Jamaica.

Claſs and Order in the Linnæan Syſtem. The characters. *Weinmannia* is of the Claſs and Order *Octandria Digynia*; and the characters are,

1. CALYX is a perianthium compoſed of four oval, patulous leaves.

2. COROLLA conſiſts of four equal petals, which are larger than the calyx.

3. STAMINA are eight ſhort, erect filaments, with roundiſh antheræ.

4. PISTILLUM conſiſts of a roundiſh germen, and two ſtyles the length of the ſtamina, with acute ſtigmas.

5. PERICARPIUM is an oval, biroſtrated capſule, containing two cells.

6. SEMINA. The ſeeds are roundiſh, and about eight in number.

CHAP.

CHAP. CCXLIV.

WINTERANIA.

Species. THERE is only one ſpecies of this genus, called, *Winterania*.

The plant deſcribed. The ſtalk is thick, woody, branching, and covered with a ſtrong aromatick bark. The leaves are oblong, obtuſe, of a bright-green colour on their upper-ſide, but aſh-coloured underneath, and ſtrongly ſcented when bruiſed. The flowers are produced in cluſters at the ends of the branches, and are ſucceeded by large green berries, each containing two ſeeds.

Culture. This plant is propagated by ſeeds in the ſame manner as *Tinus*, to which it is nearly related. It is alſo propagated by cuttings planted in pots, and plunged into a hotbed of tanner's bark; where they ſhould be watered and ſhaded at firſt, and afterwards be uſed to the air, and managed like the ſeedling plants of *Tinus*.

Titles. Canella. There being no other ſpecies of this genus, it is named ſimply, *Winterania*. In the former edition of the *Species Plantarum* it is named, *Laurus foliis enerviis obovatis obtuſis*. Cluſius calls it, *Winteranus cortex*; Brown, *Canella foliis oblongis obtuſis nitidis, racemis terminalibus*; Sloane, *Arbor baccifera laurifolia aromatica, fructu viridi calyculato racemoſo*; and Plukenet *Caſſia lignea Jamaicenſis, laureolæ foliis ſubcinereis, cortice piperis modo acri*; alſo, *Caſſia cinnamomea ſ. cinnamonium ſylveſtre Barbadenſium*. It grows naturally in America.

Claſs and Order in the Linnæan Syſtem. The Characters. *Winterania* is of the Claſs and Order *Dodecandria Monogynia*; and the characters are,

1. Calyx is a monophyllous, bell-ſhaped, trilobed perianthium, the lobes being rounded, and concave.

2. Corolla conſiſts of five oblongiſh, ſeſſile petals, longer than the calyx.

The nectarium is urceolated, conical, concave, truncated, and the length of the corolla.

3. Stamina are no filaments, but conſiſt of ſixteen linear, parallel, diſtant antheræ growing to the nectarium on the outſide.

4. Pistillum conſiſts of an oval germen within the nectarium, and a cylindrical ſtyle, with three obtuſe ſtigmas.

5. Pericarpium is a roundiſh berry, containing three cells.

6. Semina. The ſeeds are two, and heart-ſhaped.

CHAP. CCXLV.

XIMENIA.

Species. THERE are two ſpecies of this genus, called,

1. Prickly *Ximenia*.
2. Smooth *Ximenia*.

Prickly 1. Prickly *Ximenia*. The ſtem is woody, robuſt, ſends out many branches from the ſides, which are armed with ſharp ſpines, and grows to be eighteen or twenty feet high. The leaves are oval, oblong, entire, and grow alternately on ſhort footſtalks. The flowers are produced in bunches from the ends and ſides of the branches; they are very hairy, of a yellow colour, and are ſucceeded by an oval, oblong, fleſhy fruit, which is of a yellow colour when ripe.

and Smooth Ximenia deſcribed. 2. Smooth *Ximenia*. The ſtem is woody, upright, ſends out many branches from the ſides, which are unarmed, or deſtitute of ſpines, and the tree grows to be twenty feet high. The leaves are oval, ſmooth, of a good green colour on their upper-ſide; and they grow in ſome parts two or three together, in others ſingly, along the ſides of the branches. The flowers are produced ſingly on footſtalks from the upper parts of the ſhoots; they are of a white or yellowiſh colour, and are ſucceeded by ſuboval, fleſhy fruit, which are of a dark brown or black colour when ripe.

Culture. Theſe plants are propagated by ſeeds procured from abroad; for they do not ripen in England: They ſhould be ſown in pots filled with light, rich earth, and plunged into a hotbed of tanner's bark. When the plants are fit to remove, they muſt be potted ſeparately, be plunged again into the bark-bed, and be watered and ſhaded until they have taken root. Afterwards they ſhould have a large ſhare of air, and frequent waterings, eſpecially in hot weather; and in the autumn muſt be taken into a good bark ſtove, where they muſt conſtantly remain under the diſcipline and management of tender plants.

Titles. Americana 1. The firſt ſpecies is titled, *Ximenia foliis oblongis, pedunculis multifloris*. Plumier calls it, *Ximenia aculeata, flore villoſo, fructu luteo*. It grows naturally in America.

Inermis. 2. The ſecond ſpecies is titled, *Ximenia foliis ovatis, pedunculis unifloris*. Brown calls it, *Amyris arboreſcens, foliis ovatis glabris: vetuſtioribus confertis, petiolis ſubmarginatis, floribus ſolitariis*. It grows naturally in Jamaica.

Claſs and Order in the Linnæan Syſtem. The characters. *Ximenia* is of the Claſs and Order *Octandria Monogynia*; and the characters are,

1. Calyx is a ſmall, monophyllous, permanent perianthium, cut at the brim into five ſharp-pointed ſegments.

2. Corolla conſiſts of four oblong petals, which are erect, and form a tube near the baſe, but turn backward at top, and are hairy on their inſide.

3. Stamina are eight ſhort, erect filaments, with linear, erect, obtuſe antheræ the length of the corolla.

4. Pistillum conſiſts of an oblong germen, a filiforme ſtyle the length of the ſtamina, and an obtuſe ſtigma.

5. Pericarpium is a ſuboval drupe.

6. Semen. The ſeed is a roundiſh nut.

CHAP. CCXLVI.

XYLOPIA.

THERE are two ſpecies of this genus, called,

Species. 1. Muricated *Xylopia*.
2. Smooth *Xylopia*.

Muricated 1. Muricated *Xylopia*. The ſtalk is woody, branching, and five or ſix feet high. The leaves are oval, acute-pointed, and grow alternately. The flowers are produced in cluſters at the wings of the ſtalks, and are followed by muricated fruit, including a roundiſh kernel.

and Smooth Xylopia deſcribed. 2. Smooth *Xylopia*, in America, grows to be a conſiderable tree. The leaves are broad, oval, ſmooth, of a ſhining-green colour, and grow on ſhort footſtalks. The flowers come out, one or two together, on footſtalks ariſing from the wings of the leaves, and are followed by ſmooth fruit, including a kernel like the former.

Culture. Theſe plants are propagated by ſowing the ſeeds, in the ſpring, in pots filled with light, rich earth, and plunging them into a hotbed of tanner's bark. When the plants are fit to remove, they muſt be potted ſeparately, and be plunged into the bark-bed as before; where they muſt remain, obſerving to water and ſhade them at firſt, and afterwards allowing them a large ſhare of air, until the autumn; and then be taken into a good bark ſtove, where they muſt conſtantly remain.

Titles. Muricata. 1. The firſt ſpecies is titled, *Xylopia pedunculis multifloris, fructibus muricatis*. Brown calls it, *Xylopricum fruticoſum, foliis ovatis acuminatis productis alternis, capſulis punctatis, floribus confertis ad alas*. It grows naturally in America.

Glabra, 2. The ſecond ſpecies is titled, *Xylopia pedunculis ſubunifloris, fructibus glabris*. Brown calls it, *Xylopricum foliis amplioribus nitidis ovatis, petiolis brevibus, fructibus glabris*; and Plukenet, *Xylopricum arbor Barbadenſibus lignum amarum nominata*. It grows naturally in America.

Claſs and Order in the Linnæan Syſtem. *Xylopia* is of the Claſs and Order *Gynandria Polyandria*; and the characters are,

The characters. 1. Calyx is a monophyllous, bell-ſhaped perianthium, cut at the brim into four obtuſe ſegments.

2. Corolla conſiſts of ſix ſeſſile, linear, ſpear-ſhaped, coriaceous petals, the three exterior ones being the largeſt.

3. Stamina are numerous oblongiſh antheræ, ſitting on the germen, without any filaments.

4. Pistillum conſiſts of a ſeſſile, oval germen covered by the antheræ, a conical, awl-ſhaped ſtyle the length of the corolla, and a ſimple ſtigma.

5. Pericarpium is a dry, roundiſh, roſtrated drupe, containing one cell.

6. Semen is a roundiſh nucleus.

* * *

CHAP. CCXLVII.

XYRIS.

Species. THERE is only one ſpecies of this genus, called, *Xyris*.

The plant deſcribed. The root is compoſed of ſeveral long, white fibres, diverging from one common head. The leaves ariſe immediately from the root, are long, narrow, pointed, ribbed longitudinally, and grow about ſix or eight inches high. The ſtalks are upright, angular, naked, and about a foot high. The flowers are collected in ſcaly heads at the tops of the ſtalks; they are moderately large, of a beautiful bright yellow colour, and are ſucceeded by roundiſh capſules full of ſmall ſeeds, which rarely ever ripen in England.

Culture. This plant is propagated by ſeeds, which muſt be procured from the countries where it naturally grows. The ſeeds ſhould be brought over in their veſſels, and ſhould be ſown as ſoon as may be after their arrival, in pots filled with looſe, fat earth; they ſhould be then plunged into a hotbed of tanner's bark, and the mould ſhould be conſtantly watered, otherwiſe the ſeeds will rarely come up, for this plant delights in moiſture. When they appear, care muſt be taken to prevent their drawing weak, and alſo to afford them ſufficient waterings, which muſt be repeated often, but not in too large quantities at a time. As they encreaſe in ſtrength, more air muſt be allowed them; and when they are fit to remove, they muſt be planted ſeparately in pots filled with the like kind of fat, looſe earth as before. They muſt be now plunged afreſh into the hotbed, be ſhaded and watered until they have taken root, and in the autumn muſt be removed into a temperate bark ſtove, allowing them frequent waterings even in winters, and much air, and proportionally greater plenty of water, in ſummers: And this, beſides ſhifting them into pots of freſh mould every year, is all the trouble they will require.

Titles. Indica. There being no other ſpecies belonging to this genus, it is termed ſimply, *Xyris*. In the *Hortus Malab.* it is named, *Katsjiletri-pullo*. Gronovius calls it, *Xyris foliis gladiatis*; Plukenet, *Gladiolo lacuſtri accedens Malabrica e capitulo botryoideo florifera*; and Moriſon, *Gramen junceum Braſilianum, capite ovali ſquamoſo florida*. It grows naturally in both the Eaſt and Weſt Indies.

Claſs and Order in the Linnæan Syſtem. *Xyris* is of the Claſs and Order *Triandria Monogynia*; and the characters are,

The characters. 1. Calyx. The ſpike is of a roundiſh figure, having roundiſh, concave, imbricated ſcales, ſeparating the flowers. The glume is compoſed of two ſmall, navicular, compreſſed, arched, acute, connivent valves.

2. Corolla conſiſts of three large, plane, crenated petals, having narrow ungues the length of the calyx.

3. Stamina are three filiforme filaments ſhorter than the corolla, having oblong, erect antheræ.

4. Pistillum conſiſts of a roundiſh germen ſituated above the receptacle, a filiforme ſtyle, and a triple ſtigma.

5. Pericarpium is a roundiſh capſule, formed of three valves, and containing three cells.

6. Semina. The ſeeds are many, and very ſmall.

CHAP. CCXLVIII.

ZAMIA.

Species. THIS genus conſiſts of a Palm, called, *Zamia.*

The plant deſcribed. The trunk is thick, and only about two feet high. The leaves are pinnated, and the folioles are fourteen or fifteen pair in number; they are hardly half a foot long, narrow, ſtiff, pointed, ſmooth, have a few indentures near the extremity, and are ranged alternately along the midrib; the whole leaf is of a pale-green colour; and they ſurround the upper parts of the ſtalk, growing on long footſtalks: The ſpadix is ſimple, oblong, and imbricated. The flowers are very ſmall, and have each diſtinct and ſeparate footſtalks; and the females are ſucceeded by berries as large as ſmall Plums, which are of a red colour when ripe. It is obſervable, that this plant ſheds its leaves before the fruit is ripe.

Culture. This plant is propagated by ſeeds, which muſt be ſown in pots filled with light, rich earth, and plunged into a hotbed of tanner's bark. When the plants are two or three inches high, they muſt be potted ſeparately, be again plunged into the hotbed, and watered and kept ſhaded until they have taken root. In the autumn they muſt be received into the bark ſtove, giving them little water in winters, but frequent waterings, and much free air, in hot weather in ſummers.

Titles. Pumila. There being no other ſpecies belonging to this genus, it is named ſimply, *Zamia.* In Miller's Dictionary it is termed, *Palma fructu clavato polypyreno.* Commeline calls it, *Palma prunifera humilis non ſpinoſa inſulæ Hiſpaniolæ, fructu jujubino ſimili: oſſiculo triangulo*; Plukenet, *Palma Americana, foliis polygoni brevibus leviter ſerratis & nonnihil ſpinoſis, trunco craſſo*; and Trew, *Palmifolia femina.* It is a native of the warmeſt parts of America.

Zamia is of uncertain characters reſpecting the fructifications.

I. Male Flowers.

1. Calyx. Spatha. The ſpadix is imbricated, oblong, and ſimple.

2. Corolla. There is none.

3. Stamina. There are antheræ, but no filaments.

II. Females.

1. Calyx. Spatha. The ſpadix is the ſame as the males.

The perianthium is pedicellated, and target-ſhaped.

2. Corolla. There is none.

3. Pistillum. There are two germens annexed to the perianthium.

4. Pericarpium. . . . . . .

5. Semen. . . . . . .

A
COMPLETE BODY
OF
PLANTING and GARDENING.

BOOK V.

PART I.

Of the KITCHEN GARDEN.

Introductory obſervations.

WHAT has hitherto been ſaid of gardens and their produce has chiefly related to the Pleaſure Ground, deſigned chiefly for our entertainment and improvement in knowledge, to make us thirſt more earneſtly after philoſophical reſearches, and to raiſe in us ſuitable ideas of the Great Author of ſo many beautiful, ſweet-ſcented, and though ſeemingly mean, yet wonderful plants.

We come now to what is generally called the moſt uſeful part, viz. the Kitchen Garden; that as the others have feaſted our ſight and ſmell, and informed our judgment, ſo this in its turn is to ſatisfy the ſenſe of taſting, and become ſerviceable to the ſupport of life.

We have hitherto been employed in laying out the environs of a Gentleman's Seat, and making it complete with the produce of nature; and as every thing hitherto has been ſuppoſed to be full and extenſive, the ſize of our Kitchen Garden, with its furniture, muſt correſpond in a juſt proportion with all the others. A large ſhare of our ground is already occupied, eſpecially that in the front of the houſe, and moſt in view. The Flower Garden has been deſired rather to be concealed, as the form there recommended ill ſuits with the preſent taſte of deſigning. The Kitchen Garden is ſtill more deſired to be out of view. The place we ſuppoſe the Deſigner has left for it is behind the ſtables, not only to be leaſt in view, but for the conveniency of dung, &c. And this will be a good ſituation, provided the ſoil be naturally good in any tolerable degree; for our kitchen-garden, of all others, requires the beſt natural ſoil. But as the kitchen-garden is to produce fruits of all ſorts for the deſſert; if there be a thin ſurface of mould only, if it lie upon a rock, a hard gravel, or the like, the eſpaliers and other trees will die off by degrees as ſoon as the roots are got to the bottom of the natural ſoil, and will quickly come to nothing: So that where this happens to be the nature of the ſituation, our Kitchen Garden muſt be removed to a diſtance from the houſe, and proper ſoil muſt be ſought for, or the owner will find that the expence and labour of ſome years has been thrown away. The inconveniences, indeed, of having the Kitchen Garden at a diſtance from the houſe are many, and very great; but it cannot be helped: Depth of ſoil for our carrots, parſnips, horſe-radiſh, &c. as well as for our eſpaliers and fruit-trees, muſt be had. However, when this kind of neceſſity obliges us to carry it to this diſtance, the grievance may be alleviated by making the garden ſmaller in proportion; for a ſhare of the produce of the Kitchen Garden, ſuch as ſallad-herbs, ſweet-herbs, and many other

Where the kitchen-garden ought to be placed, or ſituated.

other ſmaller ſorts that are in conſtant uſe, may be raiſed nearer home, with a little more than ordinary trouble, be the ſoil what it will; while this diſtant garden may be deſigned for the general ſupply of the kitchen in its largeſt demands. But if a Gentleman can by no means reliſh the having his Kitchen Garden at a diſtance, even for the ſake of the ſoil; and though the ſpot nearer home be not proper for the continuance of fruit-trees; yet, with care and additional trouble, it may be made to ſupply moſt articles for the kitchen. One ſhare of the fruit's deficiency may be made up by the Orchard, which may be planted any where; whilſt the Garden muſt have ever ready a collection of young trees to be planted doubly-thick, to ſucceed the others as they go off: And though it would occaſion a great expence to be conſtantly purchaſing at that rate, yet as we ſhall lay before the Gardener the true method of raiſing his own fruit-trees, it will be abſorbed in his labour, and his maſter's purſe ſuffer nothing on that account. I am for having good ground for the Kitchen Garden; at the ſame time that I am for having it near the houſe for convenience, &c. After this, let the owner judge of his ground, and act accordingly. One thing I muſt obſerve to him, that the advantage of having his garden near the ſtables will be very inconſiderable, ſince very little from them is to be brought immediately into it; as the dung for this garden ſhould be carted out, and laid to rot in a concealed place many months before it is uſed. But there is another part of the Kitchen Garden which requires to be near the ſtables, viz. the ſpot deſigned for the hotbeds for the raiſing of Melons, Cucumbers, and other early vegetables.

But, ſuppoſing our ſoil to be good, or ſuch as may be mended ſo as to anſwer all the purpoſes of the Kitchen Garden, the firſt thing to be marked out is the Hotbed Ground, which is to lie full upon the ſun, ſhould be moſt out of ſight, and ought to be near the ſtables, not only to ſave trouble in wheeling, but that the litter and tracks of barrows may be never ſeen. The Melonory, therefore, muſt be fixed near the ſtables, with a good aſpect, as a place diſtinct of itſelf; whilſt the other part of the Kitchen Garden ſhould be as near as poſſible in a convenient place, and be alſo kept as a place diſtinct of itſelf.

What ſoil is moſt proper for it.

The ſituation or ſoil of the Kitchen Garden ſhould not be of too dry or parching a nature, nor yet too moiſt or damp. In the former caſe, there will be no end of watering; and even with that, hardly any thing would be brought to perfection. In the latter, the vegetables of moſt ſorts will be luxuriant and tempting, but they will be neither ſo wholeſome nor well-taſted: And as the former will moſt likely abound with ſwarms of the flying inſect kind, ſo the latter will be ſure to have plenty of the crawling ſorts of animals, ſuch as newts, frogs, toads, &c. Both theſe extremes ought to be avoided; and as we may be ſuppoſed to have compaſs enough, we may draw our deſign either one way or the other, ſo as beſt to ſuit our purpoſe. For tho' a piece of ground where the Kitchen Garden is to be, may be very moiſt and damp, we cannot ſuppoſe that the whole of it muſt fall there, without having a ſhare of it hitched a little to one ſide or the other: Neither can we ſuppoſe, if a dry parching ſpot ſhould preſent itſelf to receive our kitchen-ſtuff, but that we may in the ſame manner bring a ſhare of our garden into ſome lower and cooler ground. Each of theſe ſituations and ſoils will then have their uſes in their different produce, the hot ground for early crops, the lower for later, &c.

Of the figure,

As ſoon as the ground is marked out, it muſt be trenched, as for the Flower Garden. While this is doing, or early in the ſpring, as ſoon as the fine weather will permit, the maſons ſhould be employed in building of the walls for the fruit; and if this can be done early enough, or even if they can get them little more than foundation high, the fruit-trees may be planted, and covered with boards, garden-pots, or the like, and the wall fruit-trees will get one year in forwardneſs.—The figure of the garden is of no great importance. A Square or an Oblong is what I ſhould ever prefer: However, be the general figure what it will, the principal part of it may be brought to one of thoſe figures by its diviſion into quarters.

walks,

As ſoon as the walls are finiſhed, and the ground is well-trenched, a ten foot walk ſhould ſurround the whole, leaving a border only next the wall, as broad as it is high, or nearly ſo. A ſtraight walk ſhould run directly from the entrance through the middle. This ſhould be croſſed again by another at right angles; and if the length is great, by a ſecond and a third in the ſame manner. Theſe walks are not deſigned for ornament, but for convenience; that having walks leading to any quarter of the garden, the Gardener may fetch immediately what he wants, without going round the different quarters and beds, to the loſs of his time. Theſe capital walks ſhould be laid with coarſe gravel, or any binding materials of the like nature, otherwiſe they will be almoſt impaſſible in moiſt weather in winter, eſpecially if there be many labourers employed to dig in the different quarters. As the Peaches and Nectarines are for the walls, ſo the borders of theſe inner quarters are deſigned for the produce of ſuch fruit as will grow well in the eſpalier way; and the number may be continued by dividing the ground into more quarters at pleaſure; ſo that if the ground be proper for them, and there be enough of it, ſuch a quantity of eſpaliers may be planted as to make the buſineſs of the Orchard unneceſſary. Again: If the ſoil ſhould not be very proper for eſpalier fruit-trees, the Orchard may be made to ſupply that defect; and thus from one or the other, there will be no danger of that ſort of fruit ever being wanted.

Of all the gardens, the Kitchen Garden will moſt frequently want water; ſo that proper conveniencies ſhould be had to hold water in as many places as may be, to prevent the trouble of carrying it to a diſtance; and if a baſon or reſervoir only can be had for this purpoſe, the beds near it ſhould be appropriated for ſuch plants as will require moſt watering; whilſt thoſe that never receive it from the Gardener's hand, ſhould have their ſtation as far off as poſſible. A good foreſight and contrivance will prevent a deal of trouble; and in this, as well as in other things, the Gardener ought always to be exerciſed.

and ſize of the Kitchen Garden.

We have recommended the ſize of the Kitchen Garden to correſpond in a due proportion with our other laid-out works. The Gardener is to regulate his, as he finds occaſion; for it need not be ſtrictly obſerved, as this garden is deſigned to be concealed as much as poſſible, and a gentleman may have a large ſoul, and no very large eſtate; and if his family alſo ſhould not be numerous, it would be abſurd to have a very large Kitchen Garden for its ſupply, ſince a garden of an acre or two, with proper management, will yield prodigious increaſe: But where the eſtate and family are large, and correſpond, ſix or ſeven acres muſt be converted to this uſe. Neither can we ſuppoſe that a ring fence only can afford walling enough for the ſupply of fruit, though it be planted on both ſides, eſpecially if the beſt aſpect is uſed as an Hot-wall for forcing, &c. ſo that if this is found not ſufficient, the garden may be divided at pleaſure by building walls directly acroſs, running length-ways exactly from north to ſouth; both ſides of which may be planted; and as one of theſe ſides will front the eaſt and the other the weſt, one or other will be proper for the reception of fruit-trees of moſt ſorts.

Of the materials proper for, and general directions for building the walls.

Of all materials for building of theſe walls, brick is the beſt, and moſt convenient for nailing of fruit-trees: But they are to be built of ſtone, when moſt convenient and leaſt expenſive; for in ſome places ſtone is eaſy to be had, where good clay to make bricks cannot be procured; and as the fetching them from a diſtance may be very expenſive in carriage, &c. the former may be made to do; though I muſt own, if there be no very great difference in the expence, the brick-wall ſhould be ever preferred, not only as being moſt convenient, but handſome; eſpecially when the top is covered with a good ſtone coping, which will ſerve at once both for its preſervation and ornament. Indeed, if ſtone materials only are to be had, and the walls are to be built of them, trelaſes ſhould be fixed cloſe to the wall, about ſix inches aſunder, for the nailing of the ſhoots: Theſe ſhould be of oak for laſting, about an inch and a half thick, and about double that in breadth.

Mud-walls ripen fruit beſt.

But of all walls, the beſt for ripening of fruit and preſerving their flavour, are mud-walls. Mud was formerly the common material, for building walls in Leiceſterſhire, and is now much uſed, coping them with ſtraw or ſtubble; but they have ſo mean and beggarly a look, that no gentleman on any pretence whatever ſhould have any thing to do with them. The beſt walls for fruit, as to profit, are thoſe that are ſtraight and upright; for it is found by experience, that the different forms in which walls have been recommended to be built by Authors, as advantageous to the tree and fruit, have been entirely deſtructive of both; ſuch as the ſemicircular, angular, inclining to the horizon, &c. and ſerve only to prove how dangerous it is to recommend with confidence any thing that is to be created at great expence, and that has not been found to anſwer by long practice and experience. Ten or twelve feet will be high enough for any walls that are to be planted with Peaches, Nectarines, Apricots, and Plums; but for Pears they muſt be built higher: And for theſe a particular range of walling ſhould be appropriated; for as the diſtance theſe are to be allowed is to be greater, and they are to be trained to a greater height than any other ſort of fruit, that high walling would not only be unneceſſary for Peaches and the like, but they would have a ſtrange look amongſt theſe large, free-ſhooting trees.

Height of the walls.

Every judicious Maſon knows how to lay the foundation of his wall, and the thickneſs near the bottom, to make it ſtrong in proportion to its height. His piers ſhould not project more than about four inches, and they may be from twelve to twenty feet high, according to the trees they are to receive. If theſe walls are obliged to be laid upon a low, damp ſoil, or ſuch as will naturally retain the wet, drains muſt be laid to draw it off, or you will never have good fruit; nay, it will effectually deſtroy the Peach and Nectarine trees; for the long ſucceſſion of rain that began about Midſummer 1763, and continued in a regular ſeries the greateſt part of the winter following, killed me about 6000 nurſery plants and nectarine trees. Indeed, a large quarter in our nurſery at Tur Langton was moſt of that time under water: But another at the top of Gumley Hill fared no better; for even there, all that time, the mould could not be taken out by a ſpade but it was immediately ſucceeded by water. Theſe trees were chiefly one year from the bud, ſtrong and good, from a yard to about five feet high; and out of about 6000, ſcarcely twenty plants ſurvived the wet. There were ſome that had been budded before, and had been trained up to half-ſtandards; many of theſe were alſo killed, but not the greateſt part of them: Where there was old wood, it was not ſo ſoon ſodden as the young ſhoots. And this fate happened to my wall fruit-trees in proportion: In the loweſt and moiſteſt ground they were entirely killed; the reſt ſuffered, as the ground in which they ſtood declined to ſhoot off the wet as it came. Drains, therefore, muſt be laid, if the ſoil be ſpungy, or will retain the wet, or planting had better never be begun. The kitchen-ſtuff will alſo require drains to draw off the ſuperfluous moiſture from every quarter, or they will be greatly injured, eſpecially in winter, and many of them ſpoiled.

Drains particularly neceſſary for the walls and kitchen-ſtuff.

Rules for improving the ſoil of the Kitchen Garden.

Such part of the kitchen garden as happens to be poſſeſſed of a cold, clayey, damp ſoil, may be improved with ſuitable manure; for which purpoſe nothing is ſo good as coal-aſhes of all ſorts: Theſe are eaſily obtained, as there is ſcarcely a village where the poor do not throw it on an heap as they make it, and preſerve it for ſale once a-year. Theſe, beſides what proceeds from the owner's fires, are to ſupply proper manure for the improving ſuch ſoils; to which good houſe-dung, well rotten, may be added.

If the ſoil be light and ſandy, dry and warm, rotten cow's dung is the beſt. At the firſt making of the garden, if it be ſhallow and barren, its depth and nature may be much improved by mud from ponds. There is hardly a gentleman but has fiſh-ponds, the cleanſing of which has been many years neglected; for which two reaſons may be aſſigned, the expence of doing it, and the little uſe to be made of the mud. Uſing the mud in the kitchen-garden, however, will more than amply pay for the trouble; for by this, the depth of the ſoil will be mended, and the light, ſandy, dry earth, by ſuch a cool mixture, in a little time will be made to anſwer moſt purpoſes in gardening. But the manure muſt be ſuited to the nature of the ſoil in all gardens; though, if it be well rotten, no objection is to be made to hardly any ſoil. A place for the reception of the manure muſt be pitched on in a concealed place, until it is fit for uſe. This will chiefly conſiſt of mulch from the farm-yard; to which may be added, old rotten thatch, ſaw-duſt, lime-rubbiſh well beaten, aſhes, *&c.* In the winter it ſhould be wheeled into the different quarters of the kitchen-garden in froſty weather; for when the froſt is very hard, the labourers may be employed in this way, who might otherwiſe be idle; and by wheeling it at theſe times, it will be brought in clean, without clogging, dirt, ſpoiling walks, quarters, &c. So that, taking this opportunity, it ſhould be laid on heaps in the different quarters, to be properly mixed with the mould, when dug for planting or ſowing. This dunghill, in its concealed place, ſhould be two or three times turned over, and well mixed; and care muſt be taken that no weeds grow and ſeed on it or near it, or with it you will bring ſuch a family into your garden as you will not be able to extirpate.

The Kitchen Garden to be carefully kept clean from weeds.

The whole garden ſhould be always kept clean from weeds, which muſt be ever pulled or hoed up as they appear, or before their ſeed is ripe; for if this is only once neglected, it is amazing to think what a prodigious crop of weeds will ſucceed a few that have been left ſtanding. The labour of many years muſt be employed wholly to extirpate the breed; which will not only be a conſtant expence, but they will have the beſt ſhare of that nouriſhment that was intended for the cultivated plants. Whereas, if a little more than ordinary care and trouble be uſed in deſtroying the weeds at firſt, and a ſtrict regard be had to their not being brought in with the manure, there will be very few to cauſe trouble: And with this care, much after-expence will be ſaved; the plants will be robbed of none of their nouriſhment; and the whole will look clean and neat, producing credit to the gardener, and profit to the owner.

The ſame land muſt not always produce the ſame crop.

It is now generally known, that the ſame piece of ground does not produce the ſame crop two or three years together in the ſame perfection. The gardener muſt remember this, and that whatever crop has grown in any quarter one year, the ſame quarter is to receive another the ſucceeding as different in nature as poſſible. This will be attended with neither additional trouble nor expence; recollection only is neceſſary; and it is often on ſuch little obſervances that the perfection of things depends.

After the different quarters are cleared of their ſummer crops, they ſhould, as ſoon as conveniently may be, be thrown up in ridges, to remain ſo all winter; by which they will be enriched and made fine: By the ſun, froſts and air, the few lurking ſeeds of weeds will be killed, and the ground will be in a moſt perfect condition to receive whatever is deſigned for it in the ſpring.

Agreeable method of concealing the Kitchen Garden.

It has been ſaid, that our Kitchen Garden ſhould be concealed from the ſight. To do this effectually, a ſhrubbery ſhould ſurround it, and a ditch and a quickſet-hedge ſhould be made round the whole, at the diſtance of about thirty feet from the wall. This ſhould be poſted and railed, to keep off the cattle; and the inſide ſhould be planted with ſuch ſorts of ſhrubs or trees as will grow no higher than juſt to conceal the walls from view. Thus the Kitchen Garden, which would otherwiſe be a blemiſh in the proſpect, will become ornamental; for, if it is not viewed from too high a ſtation, it will have the appearance of a very conſiderable plantation, which muſt have a good effect from any place. A ſerpentine walk may run through the whole, ſo that it may be made to anſwer the end of a ſhrubbery, and be very agreeable that way. But beſides concealing the walls, there is another reaſon why they ought to be fenced out, and that is, for the conveniency of planting the outſide of them with fruit-trees. Every one knows the great expence which attends their building, and what a pity it will be to have the leaſt ſhare of them unoccupied: So that, in ſuch parts of the walls as are to be planted, which ought, at leaſt, ſurely to be all the beſt aſpects, the Gardener muſt be careful not to plant his trees or ſhrubs too near it; ſo near it, at leaſt, that the fruit-trees will be ſhaded by them. A border alſo muſt be made; and this may be uſed as a ſhare of the Kitchen Garden, for the raiſing of the many ſorts of ſallads and herbs for uſe.

Raiſing of peaſe and beans on the borders may be practiſed,

The raiſing of ſallad herbs on the borders, near the walls, has been generally allowed; but a ſtrict prohibition is put upon peaſe and beans in their early ſtate. The reaſon given is, that they will rob the fruit-trees too much of their nouriſhment. But if it is conſidered that theſe borders are ſuppoſed to be annually improved by manure, and that the peaſe and beans to be raiſed are of the lower growing ſort, there will be nutriment enough for their ſupply, without any danger of robbing the fruit-trees to their detriment. Indeed, ſuch borders would be as well, and perhaps better, without them; but we ſhould conſider how uſeful a good wall is for perfecting ſuch crops; and that they are hardly to be had without them or the like. And as theſe articles may be thought little inferior in value to moſt of the produce of the garden, the raiſing them in ſuch proper places ſhould put the Gardener in mind of continuing to make the fruit trees amends for what they have exhauſted, by giving their borders double manure and culture; and as theſe crops are generally off long before the fruit is ripe, the digging them immediately after will ſweeten the mould, prepare it to receive the nitrous particles, and will adminiſter its fineſt juices to the trees, which will be communicated to the fruit, and enhance its flavour.

as well as under reed hedges.

After having forbid peaſe and beans to be raiſed in theſe borders, becauſe of their early crop, the making of reed hedges has been recommended, which will anſwer the ſame purpoſe in every reſpect. We allow it; but then theſe reed hedges will often be very expenſive; and we muſt make enough of them for our other gardens: However, when they are eaſily to be obtained, let them be uſed for ſuch early crops; though, I believe, when the family is large, they would be glad to have as many of theſe articles as poſſible raiſed under a large quantity of reed hedges, beſides the borders of the fruit-garden.

We have hitherto recommended a common uſeful neatneſs to be kept up in the Kitchen Garden, without running into the trouble and expence of elegance and ſhow; for the things here are deſigned for uſe, and are chiefly to afford their pleaſure when placed on the table. But there are ſome who take more delight in walking in a Kitchen Garden than the fineſt that can be laid out; nay, there are people who can reliſh no other, and repeat in its praiſe the old trite pun, *Of all the flowers in the garden give me a good cauliflower.*

When a gentleman's turn is ſuited to the Kitchen Garden, the walks ſhould be of a finer gravel; and though a neatneſs is made indiſpenſible, an elegance muſt be obſerved in the whole work.

There are none but muſt allow, that a well ordered Kitchen Garden is a delightful place in the ſpring, before the generality of crops are ripe; unleſs when thoſe ill ſmells and unſightly objects preſent themſelves, which are chiefly occaſioned by the rotting of ſtalks, cabbage leaves, &c. ſo that if theſe, and the like, are cleared off as ſoon as the crops are got, and the ground dug, theſe inconveniencies may be avoided. But of all things, the cabbage leaves ſhould be carefully taken away at firſt, while they are green; for if the larger leaves cut off are permitted to rot upon the bed, they will ſoon commence a nuiſance to the place. With care, a Kitchen Garden may be kept always pleaſant and agreeable to walk in; but no art can make it ſo engaging and deſirable, as when flouriſhing with its firſt produce in the ſpring, unleſs the fruit be reckoned the temptation. However, the ſhrubbery round it will cauſe a variety, and by its winding walks, and ſeats properly placed, may be made to anſwer all the ends of ſuch a plantation.

How to protect the Kitchen Garden from froſt, winds, &c.

We may now ſuppoſe our Kitchen Garden to be finiſhed. It ſhould always have a free air, though protected from the cutting ſeverity of the black froſts, &c. Plantations of tall growing trees are very bad to be near the Kitchen Garden, as the air will be confined, inſects will be more numerous, and blights are never more frequent than in gardens that have woods too near them. Trees, however, of the talleſt growing ſorts we muſt have for defence; and theſe are to be placed properly, and at proper diſtances. The northern black froſty winds cut off every thing before them, and their edge is generally more keen when the point is north-weſt: So that if the place be a level, at 200 yards diſtance ſeveral rows of elms ſhould be planted tolerably cloſe to break its violence. This tree is beſt adapted for the purpoſe, as it will, of all others, bear removing of the largeſt ſize, and ſo will ſooneſt be uſeful to anſwer the ends of a ſcreen. The north-eaſt is ſuppoſed to be another dreadful corner, which is attended with the moſt deſtructive blights: The Elm-tree alſo is to be planted for defence in the ſame manner. But above all, I have ever found the moſt dangerous blights to proceed from the ſouth-weſt point, and have, years and years together, known it to take off the whole bloom of the peaches and nectarines of that beſt of all aſpects the ſouth wall, and all others that have been more inclined to that point: So that the defending this point by planted trees is an indiſpenſible neceſſity. Six or eight rows of theſe elms will be ſufficient; though if there be more, the defence will be made ſooner, and they may be brought round in a circular manner, or nearly ſo, to what length the gardener, by the nature of his ground, finds expedient. They need not be planted nearer than four feet, unleſs they are very ſmall; though this ſhould not be ſtrictly obſerved, for they ſhould be planted without rule, and ſeemingly without order, and in a little time their branches will unite in their common office; and it is really amazing to think to what a great diſtance they will enſure warmth in the ſevereſt weather. If from the garden-wall be an aſcent, the diſtance of theſe plantations ſhould be greater in proportion to its riſe; or if a high hill or mountain is near, a few trees arranged along its brow, in an eaſy, natural way, will be all that will be required. If the Kitchen Garden, however, happens to be upon the ſide of a hill, it will have one ſide defended of courſe, and the reſt muſt take its chance of wind and weather.

PART II.

Of HOTBEDS.

HOTBEDS are of ſuch great uſe to the Gardener, that without them he could not perform the neceſſary operation of ſeveral parts of his art.

Various uſes,

By Hotbeds, cuttings and ſlips of many trees and ſhrubs, which would otherwiſe remain inactive and die away, are made to grow, and beautifully to aſſume the air and gaiety of freſh plants.

By Hotbeds, many ſeeds, which would otherwiſe have lain for years in the earth, are made to diſcloſe, germinate, and ſoon to ſhew themſelves a numerous, riſing family of the vegetable tribe, to ſtock the different colonies of our Plantations.

By Hotbeds, the ſeveral ſorts of tender annuals are brought to great perfection, and the produce of India is made to glow with us in its native pride.

By Hotbeds, the different products of the Kitchen Garden are brought on earlier, and we can experience its delightful contents in unuſual months. By their aſſiſtance, the cucumber in winter may become no rarity, but may be made common; the melon is brought early to perfection; nay, peaſe, beans, and almoſt all the vegetable tribe may be brought to perfection, and made to garniſh our tables at any deſired time.

Of ſuch general uſe are Hotbeds to the Gardener, that it is highly neceſſary he be inſtructed in their true compoſition and management.

and ſorts of Hotbeds.

Hotbeds are of two kinds:

1. Horſe-dung Hotbeds.
2. Tanner's bark Hotbeds.

What produce Horſe-dung Hotbeds are chiefly deſigned for.

1. Horſe-dung Hotbeds are chiefly deſigned for raiſing of cucumbers, melons, tender annuals, winter ſallading, aſparagus, &c. and are of great uſe in raiſing the ſeeds, cuttings, &c. of ſhrubs and plants.

The degree of heat, as well as times of making them, ſhould be different for ſuch different ſorts as require it; ſo that the ſtrength or power of the hotbed muſt be ſpecified under each article that requires an hotbed out of the common way.

The moſt general Horſe-dung Hotbed, and ſuch an one as will anſwer for almoſt all the purpoſes hotbeds are intended for, is made after the following manner:

How to make and manage a Horſe-dung Hotbed.

About a week before the beds are to be made, the dung ſhould be brought from the ſtables, and laid on an heap to ferment: A good ſhare of litter ſhould be brought in along with it, eſpecially that ſort of litter which is made wet with the horſes urine. A quantity of ſifted coal-aſhes ſhould be in readineſs to be mixed with it, as it is laid down. The quantity of both is to be according to the ſize the bed is to be made; but the proportion they ought to bear to one another, ſhould be a load of dung to a ſtrike of aſhes.

The aſhes, in this proportion, muſt be ſprinkled among the dung and litter as it is laid down; and after it has lain a week or eight days, it will be fit to uſe.

The place muſt then be marked out for the bed. The form ſhould be a parallelogram, or long ſquare; and if the ſoil is naturally dry, the mould ſhould be dug out a full ſpade's depth; but if it be naturally wet and damp, the bottom of the bed may ſtand on the top of the ground: The bottom of the trench muſt be firſt covered with about two inches thickneſs of cinders, and then the dung is to be laid on it from the heap. The litter and longeſt parts ſhould come firſt; but ought nevertheleſs to have ſome of the dung and ſmaller parts along with it; on which account a common dung-fork muſt be uſed for the purpoſe; for this will naturally draw away a proper ſhare of litter and dung; and, laſt of all, it will leave ſome of the ſmaller parts to be laid on the bed. As the bed is making, all muſt be laid even, be well ſpread, ſhaked, and, at certain times, muſt be beat down cloſe with the fork, or the back of the ſpade. In this manner you muſt proceed, until the bed is about two feet and an half, or a yard, above the ground. After having laid the ſmall remaining parts on the top of the bed, made it ſmooth and level, and patted it down cloſe, the bed is completed.

The frames are of different ſorts and depths, according to the different plants to be raiſed.

The mould alſo is various, from the different compoſts to ſuit the reſpective plants; but the moſt common and general thickneſs or depth that is to be laid on the hotbed, is about five inches.

It is uſually laid on two days after the bed is made; during which time the ſteam will riſe in plenty, and will continue to be very ſtrong for a week afterwards. The glaſſes muſt be raiſed in the day-time to let it out, and the bed will require, for the moſt part, but a ſlight covering in the night. When the heat abates, the covering ſhould be proportionally increaſed, and the bed ſhould be lined, or laid round the ſides with freſh horſe-dung: The heat will thereby be quickened; and it may be continued a very conſiderable time, by the addition of more freſh dung to the ſides.

Moſt proper place for theſe Hotbeds.

The place appropriated for theſe hotbeds ought to be near the ſtables, not only for the conveniency of having the dung near at hand, but for neatneſs ſake, as the conveyance of ſuch materials into the garden cannot be effected without deſtroying that ſimplicity and elegance which ought to be found in every part of our Works.

In what reſpects Tanner's Bark Hotbeds are moſt uſeful.

2. Of Tanner's Bark Hotbeds. Hotbeds made of tanner's bark ſupport a more regular and uniform heat, continue longer in good temperature than the former ſort, and are made to ſerve the purpoſes of the niceſt parts of gardening. The beds in our ſtoves are hotbeds of tanner's bark; and it is chiefly through their aſſiſtance that we eat the Pine Apple, perhaps in as great perfection as the natives of Surinam, New Spain, and Africa do, where that admirable fruit is found growing in a ſtate of nature.

By theſe beds moſt of our tender exoticks are beſt raiſed; and they are chiefly uſed to give life and vigour to curious trees and plants imported from diſtant countries.

The hotbeds in our ſtoves, indeed, have the additional aſſiſtance of actual fire to preſerve the moſt tender plants through our winters; and by their joint operation, together with a due admiſſion of light and air, we are able to exhibit fair, and in perfection, tender plants from every quarter of the world.

Such hotbeds have their pits already prepared, and there are rules for filling of them, and preparing them for the intended purpoſes. What I ſhall give here is a general direction for making a common hotbed of tanner's bark, to be uſed on common occaſions as it ſhall happen.

General directions for making a common Hotbed of Tanner's Bark.

Firſt mark out the ground in an oblong ſquare. The former hotbed may be almoſt of any ſize, according to the quality of the ſtuff it is to contain; but it is not ſo with this hotbed, which ought to be at leaſt four yards long, and two broad, in order to contain tan enough to raiſe and keep up a ſufficient body of heat. This ſpace, then, being the ſmalleſt that ought to be for an hotbed of tanner's bark, it may be made wider according to the width of your frames, and may be continued lengthways, ſo as to be large enough to contain any deſired number of plants.

Having with a line meaſured out the ground, dig it, if the ſoil is dry, a yard deep; if naturally wet and damp, the bottom of the bed ſhould be upon a level with the ſurface of the ground. If the bed is ſunk a yard deep, the bottom muſt be well rammed; and if it be paved with brick, it will be ſo much the better. A wall all round it muſt be bricked to the level of the ſurface of the earth, that the whole may form a pit of any given length and breadth, but about ſix feet and a half deep. If the ground is wet, the floor ſhould be laid on the ſurface of the earth, and the ſides ſhould be bricked a yard high; after this, mould of any kind ſhould be brought to raiſe the ground round the wall to its height, and it will then be a proper pit for the reception of the bark.

The bark is divided into three claſſes; the large, the middle-ſized, and the ſmall. The largeſt and coarſeſt bark is the longeſt before it heats, but then the fermentation is moſt violent, and laſts the longeſt: The middle-ſized heats proportionably ſooner, and continues the heat in like degree ſhorter: And the ſmalleſt bark heats the ſooneſt of any, but then it is in a low degree, and ſoon over.

After this, the Gardener will know what ſort of bark to make choice of for the purpoſes he wants it. In general, the beſt mixture of bark for the bed is a compoſition of all the ſorts, as they are accidentally taken from the vat.

The bark for the bed ſhould be always freſh; and having taken it from the vat, it ſhould be laid in ſmall heaps to drain; for much moiſture will retard the fermentation, and often prevent its taking effect. In a week's time the redundant moiſture will be drained off, and then the bark will be in a good condition to enter the pit.

It muſt be thrown lightly in, ſpread regularly, and muſt only be gently preſſed down with the back of the ſpade. Having filled the pit in this manner, the fermentation will come on regularly in a week or a fortnight, or longer, according to the ſize of the bark; and the bed will then, in the ſtricteſt ſenſe, be truly and properly a Tanner's Bark Hotbed.

If the bark is of the largeſt ſort, ſuch a bed will continue in good temperature for a quarter of a year; and if it be compoſed of the ſmaller ſort, it will hold good for about two months: In either caſe, as the heat declines, it is eaſily revived by the addition of freſh bark. This ought to be new, and well-drained; and having ſtirred up the old and nearly exhauſted bark in the pit, it ſhould be mixed with it, throwing out at the ſame time all the ſmall and crumbled parts of the old bark. This will bring on a freſh fermentation, which will continue in good temperature for two or three months longer.

It has been obſerved, that hotbed frames are of different ſorts and depths, according to the different plants to be raiſed. The loweſt ſorts are

Of the various ſorts of Hotbed frames; their make, uſes, &c.

are uſually fourteen inches high in the back, and ſeven in the front: The others ſhould be according to the height of the plants they are to contain. The Pine Apple frames ſhould be a yard high in the back, and fifteen inches high in front: For taller trees and plants alſo the like proportion ſhould be nearly obſerved, that the rain may the more readily paſs off the glaſſes. For tall Annuals a multiplying frame is beſt uſed. This is compoſed of two or more frames of equal length and breadth; and being made exactly to fit each other, as the plant advances to the height of the firſt frame, the ſecond is placed on it; after that in like manner the third, &c. A drawing-frame alſo for theſe purpoſes is ſometimes uſed. This is effected by the help of poſts fixed at each corner of the bed: In theſe poſts holes are bored at ſix inches diſtance from each other; wooden or iron pins are to be provided; and when the plants arrive at the top of the frame, and the frame is drawn up, the pins being placed in the holes, the frame is placed on them; the vacancy is eaſily ſtopped by any common planks or boards; and in this manner the frame may be raiſed to any deſired height.

Thus may any ſort of frame be contrived to ſuit the purpoſes for which it is wanted. But for Annuals nothing is ſo proper as the glaſs caſe recommended to be built at the end of the ſtove for containing ſeveral tender, ſucculent plants.

Every one who is fond of Annuals ſhould be provided with a glaſs caſe or two of this kind: They may be built without the flues, and muſt have no ſhed behind them. In hotbeds contained in ſuch caſes, the tendereſt kinds of Annuals may be brought to as great perfection as their nature will admit of.

All theſe ſorts of frames will be very convenient for the protection of ſeveral plants, which in their infant ſtate are too tender to bear our winters; but which nevertheleſs, after they are grown tolerably ſtrong, may be ſet abroad in warm, well-ſheltered places in our gardens.

For this purpoſe, where many ſuch plants are annually raiſed, a frame ſhould be built without any deſign to cover an hotbed, that it may continue to be in readineſs in the ſpring, when the others are wanted for the ſeveral purpoſes they are deſigned for.

Such a frame ſhould be ſtationed in a warm, well-ſheltered part of the garden, and ſhould exactly front the ſouth. The bottom and the walls ſhould be made of brick; the breadth ſhould be ſix feet and an half, and the length according to the quantity of plants it is to contain. The back wall ſhould be four feet in height, and the front wall a foot and an half; it is to be laid on with oak on which the glaſſes may ſlide, the more readily to give the plants air in mild weather, and cover them in nights and froſty weather.

Plants intended for this place are ſuch as muſt have plenty of air, and require only to be ſcreened at firſt from froſts; and for ſuch plants a frame of this nature will be more ſuitable than the Green-houſe.

Of HOT WALLS.

THE proper management of Hot Walls for the forcing of fruit is reckoned among the politer parts of Gardening; and though they are attended with very little trouble, they afford direct means to the curious horticultor of diſplaying his ingenuity, and great ſkill in his art.

Various uſes of Hot Walls.

By hot-walls, the produce of diſtant countries, natives of the warmer parts of the world, may be made to ripen in our climate; and by Hot-walls, the valuable fruits of our own country are ripened earlier, and made to ſhew themſelves in perfection in unuſual months.

Here the Vine is found laden with heavy cluſters, which ſeem to contend for goodneſs with thoſe of the vineyards of Spain. Here the late Perſian fruits are brought to ripen, and their exalted richneſs experienced by us in theſe diſtant climates. Lemons and Citrons glow in their native dignity, and diſplay their gaudy pride in the ſame manner as they are found in the woods of Media. Cherries are brought forward in the ſpring, and thoſe delicious fruit made to ſhew themſelves almoſt at any deſired time.

In ſhort, by Hot-walls Nature is quickened in her courſe. Within their limits the Spaniſh, the Portugueſe, and ſtill warmer climates may be found, and the delicious produce of thoſe countries made to glow in their native beauty.

And when we conſider that the extraordinary expence attending theſe Walls is not very great, it is much to be wondered at that the uſe of them is not become more general, eſpecially in the northern countries of Britain, where fuel is generally cheap, and where the ſpecies of fruit that will grow to perfection without ſuch aſſiſtance, is ſtill more contracted than the ſouthern parts of this kingdom.

Of the length of the wall, and the proper times of heating it.

The length of this walling muſt always be in proportion to the largeneſs of the family, or the quantity of trees that is to be forced; and it muſt be alſo governed by the manner in which they are intended to be forced. For if the fires are lighted late in the ſeaſon, with a view only to accelerate the ripening of the fruit a few weeks, the trees will bear ſuch kind of forcing every other year; but if they are lighted early in January, with a view to have the fruit ripe two months ſooner than in the common way, trees thus forced muſt reſt two years before they are in good condition for the next operation. From whence it appears, that in the moderate way of forcing, there muſt be a double quantity of walling planted for the purpoſe, that the parts may alternately be at reſt: And when the ſtill more violent forcing is to be uſed, there muſt be three times the length of walling that would ſerve for one year, that the parts may ſucceed each other for the operation in due order.

One fire will ſufficiently warm forty or fifty feet of walling. If the wall be only forty feet long, leſs fire will do, and the warmth will be more uniform and even: If the wall be fifty feet long, a greater fire is required to keep it in good order; neither will it be equally alike in the different parts, for thoſe neareſt the furnace will be much warmer than the extremities of the wall. The advantages of ſo long a flue, however, are very apparent: You thereby gain a length of ten feet to hold a larger quantity of trees for your purpoſe; and the warmer parts near the furnace will be admirably adapted for growing Citrons and Lemons, where they will grow to be as large and as fair to look on as in their native countries.

Proper ſituation for;

The Gardener need not be told that the ſituation of the Hot-walls ſhould be naturally dry, defended from the piercing northern blaſts; and full upon the ſouth or ſouth-eaſt. If the place is wholly open, it may be ſufficiently ſcreened in a few years by planting a range of large elms in ſeveral rows, pretty cloſe together, at the diſtance of about twenty or thirty yards from the wall. If it be naturally wet, it muſt be well drained, and the foundation of the wall muſt be carried up higher; for the border muſt be then raiſed at leaſt two feet, and there muſt alſo be at the bottom of it a ſtratum of broken bricks, ſtones, gravel, rubbiſh, &c. rammed down cloſe a foot and an half thick, to prevent the roots from ſtriking into ſuch a kind of habitation as would cauſe the tree to be very luxuriant in wood, but productive of little, and that ill-flavoured, fruit.

and general directions for building Hot Walls.

Having thus fixed upon the place for your Hot-walls, and having every thing in readineſs, let the foundation be laid with good ſtone or brick three feet and an half thick. This ſeems to be a monſtrous breadth for the bottom of the wall; but the reader muſt be told, that it is highly neceſſary to ſupport the flues firm, and keep them in their proper poſition; and for his comfort he alſo muſt be told, that this thickneſs need not be continued more than half a foot above the ground, for that will be a proper height for the foundation of the firſt flue, and the ſides may be then contracted. The fire-places muſt be the ſame as thoſe for the ſtoves; they muſt be below the foundation of the firſt flue, which will occaſion ſteps to lead down to them; their ſituation muſt be in the back part of the wall; and ſheds muſt be built over them, the more conveniently to manage the fire, and keep a regular heat.

The ſheds ſhould be handſomely bricked and ſlated, having a door to enter: And that the fewer of theſe ſheds may be erected, two fire-places for the warming of two diviſions of walling may be made near each other, having a partition only of three bricks thickneſs between them, and then one ſhed will ſuffice for the protection and convenience of both fire-places; obſerving always, in building theſe ſheds, to ſee that they are at firſt built large enough, that there may be room to perform the neceſſary operations of the place, and that the door be placed in one corner next the wall, and not full upon the fire-place; which being left much open, would cauſe the fire to burn violently, conſume the fuel, and deſtroy that uniformity of heat which ought to be preſerved in ſuch a place as nearly as poſſible.

But to proceed in the erection of the wall. Ten feet is its proper height, and we have raiſed it half a foot above the level of the border, ſupporting a breadth of three feet and an half thick from the bottom. Here then is the foundation for the firſt flue; and as the flues will be carried along the middle of the wall, it will divide the wall into two parts, the back and the front part, both of which muſt be of brick. The back part ſhould be ſet in four inches, and ſhould be two bricks thick, the more effectually to throw the heat forward; and the front wall alſo ſhould be ſet in four inches, and ſhould not be thicker than four inches, that it may be the better warmed, and communicate heat to the air of the place and to the trees. The wall will thus be reduced in thickneſs; and there will then be a proper ſpace between the back and front wall for the flues, which ſhould be covered with tiles or bricks of a proper length and thickneſs, and made to run four times the length of the wall before they diſembogue the ſmoke. The loweſt flue ſhould be two feet and an half deep; the next, which carries the ſmoke in return, two feet; the third, which directs the ſmoke to the extremity of the wall, one foot; and the fourth and higheſt flue, which brings it back again to paſs off, one foot: Thus will your flues be continued up the wall to the height of about eight feet, which is a proper height to heat the whole wall, and warm the air of the place. The upper part of the wall may be finiſhed in the common way, and at the top of it the frames muſt be fixed for the reception of the glaſſes.

The flues muſt be well plaiſtered, and made as ſmooth as poſſible, that they may keep clean a longer time, and cauſe the ſmoke the more readily to paſs off; and as they will ſometimes want cleaning, the maſon ſhould turn ſome arches at the end of the wall, which may be opened and ſtopped up again when the flues are cleaned. Between the flues alſo, in erecting of the wall, iron hooks ſhould be fixed, at about a yard aſunder, for the ſupport of the trellis: Theſe ſhould project about two inches from the front wall, and ſhould be long enough to be faſtened into the back-wall, the more effectually to keep them firm. Theſe are all the neceſſary precautions in the firſt erection of the wall; for the trellis need not be brought there until the trees are got into a bearing ſtate, as they would only be rotting, and of little ſervice; neither need the glaſs-work and their frames be provided before that time, as they would be altogether uſeleſs, and would probably be broken, and much detrimented before they were wanted.

Of the different ſorts of fruit proper for Hot-walls.

Having thus finiſhed our walls, the next thing to be proceeded upon is to plant them with the ſorts of fruit proper for ripening. But this entirely depends upon the whim of the owner; ſome people being deſirous of having fruit earlier than the uſual ſeaſon, let the ſorts be ever ſo common and mean; whilſt others, again, are for having the rich ſorts from other countries, which, though they come later than many of our fruit in the common way, are by no methods to be obtained without theſe advantages.

Grapes ought always to occupy a diviſion of walling by themſelves; and, to ſuit the palates of all, let both early and late grapes be planted. The vines need not be ſet further from each other than ſix feet; ſo that a range of wall of fifty feet long, belonging to one fire, will contain eight plants. Let the early ſorts be, the White Sweet-Water, the Black Sweet-Water, the Royal Muſcadine; and let the late ſorts be, the two Muſcats of Alexandria, and the five Frontinacs, the Lombardy, the Tokay, and St. Peter's. If more walling is to be filled with vines, the early or late ſorts may be doubled at pleaſure, and other different kinds may be introduced; ſuch as the Early Sugar Grape, the Red Chaſſelas, the Black Cluſter, &c. for the early ſorts; and for the late, the Alicant, the White Raiſin, the Black Raiſin, the Claret, &c.

Peaches and Nectarines need not ſtand further from each other than eight feet: And for the early ſorts of Peaches take the Red Nutmeg, the Early Anne, the Early Purple, Groſs Mignion, and the Early Newington; for the other ſorts, the Old Double Mountain Newington, the Willow-leaved Late Newington, the Late Admirable, the Late Michaelmas, and the Pavy of Pomponne, the Bloody, &c. In ſhort, all the late Peaches, when well ripened, are the richeſt fruit in the world; and this is the only way by which they can acquire their true flavour and perfection. Of Nectarines, let there be Fairchild's Early, the Early York, the Elruge, the Newington, &c. Of Apricots, let there be the Maſculine only: Of Plums, the Morocco, the Great Violet: Of Cherries, the Early Sugar-Heart, May and May Dukes, and ſome Morells, which, with theſe advantages, vie with any fruit in the world.

Theſe are the principal ſorts for forcing; the other kinds may be introduced at the pleaſure of the owner. Beſides theſe, there may be alſo inferior fruit ſituated, which, being ripened ſo very early, will not only be uſeful, but will be reckoned as great a curioſity as any thing; ſuch as gooſeberries and currants. Strawberries come in of courſe to occupy the border, and, if you chuſe it, Kidney-Beans, Dwarf-Peaſe, and the like; nay, Monthly and Early Roſes, and other kinds of curious flowers, may be made to join the fraternity, to enrich the apartment, and regale the other ſenſes, as well as the taſte, in the fulleſt and moſt perfect manner.

Other directions reſpecting the borders, frames, &c.

The borders for the vines ſhould be five feet broad (four feet will be ſufficient for the others); and they ſhould be bounded by a wall, which ſhould be raiſed two inches above the ſurface, to keep up the mould, and ſupport the plate of timber for the reception of the ſloping glaſſes.

The glaſſes ſhould be diſpoſed in two ranges, the upper and the lower range; and the frames ſhould be three or four feet broad, or as large as they can be conveniently handled. The lower range may be eaſily taken away or put on at pleaſure; but the upper range muſt be contrived to ſlide, ſo that they may be drawn up, or let down, one, two, or more feet, as there ſhall be occaſion: And they may be eaſily kept in that poſition by making holes in the wood-work at the above diſtances, and placing in them iron pins for their ſupport.

The timbers for the ſupport of theſe frames ſhould be very ſubſtantial, and well-ſeaſoned. They are to run ſloping from the top of the main wall to the timber of the front wall, which is deſigned to receive them; and at both the top and bottom they muſt be faſtened, to keep them ſteady; but this muſt be in ſuch a manner that they may be eaſily taken to pieces again: For the whole of all this front-work having guarded the fruit unto its ripened ſtate, is to quit its office, and be removed for the like operation to another part of the walling.

The glaſs for the lights ſhould be of the beſt ſort, though the very worſt kind of all is often made to do. The panes ſhould be large; and the lead ſhould be broad, and the parts well cemented, the more effectually to keep out the wet. The bars ſhould run lengthways for their ſupport; and the upper range is to be made to ſlide two or three inches under a board, which is to receive the wet as it falls on the top, and ſhoot it on the glaſſes to paſs off.

Theſe things being effected, there remain only the angular ſpaces at the ends of the wall to be ſloped. That next the eaſt ſhould be ſloped with glaſs, otherwiſe that part of the wall would be for ſome time ſhaded after ſun-riſing; the other end alſo ſhould be glaſſed: But as the obſtruction of the rays at that end, in the decline of the ſun, will be inconſiderable, it may be bricked or boarded, as you ſhall think proper; and at both ends a door or window ſhould be made to open and ſhut, to admit freſh air, when it would be unſafe or troubleſome to remove the glaſſes in the ſlope.

Thus you have every thing requiſite for your Hot-walls; and having the fruit-trees in a good bearing ſtate, which will be in about four or five years from planting, let the parts be put together; and about the beginning or middle of January, but not earlier, let the fires be lighted.

One fire in a day will be ſufficient to keep the air to a proper degree of warmth, unleſs very cloudy and cold weather ſhould ſet in. This fire ſhould be lighted about four or five o'clock in the evening; and if it continues burning until twelve, it will be better than if it burnt longer; for a moderate warmth will ſuit the trees in that ſituation, and enſure ſucceſs better than a greater. The condition of the air is beſt judged of by the thermometer, which ſhould be placed where no ſun ever comes; and with ſuch a fire, together with ſuch additional heat as is received from the ſun, the air will rarely be found below the point Temperate; for if the ſun ſhone on the glaſſes but a very little time, the air would be rarefied to that degree, even had there been no fire made the preceding evening: Nevertheleſs, if very cold, cloudy, froſty weather ſets in, or cold fogs or damps ſhould continue for a long time, and no ſun appear, the fire ſhould be continued longer, or made to burn briſker: And this the thermometer is to determine; for the warmth of the place ought always to be about ſix or eight degrees above the point Temperate.

As the days grow longer, and the power of the ſun upon the glaſſes is greater, the fuel muſt be proportionally abated; a greater quantity of air alſo muſt be granted the fruit, and you will find them advancing apace towards perfection. If due attention be given to the trees from the firſt lighting of the fires, you will find moſt of them in bloſſom by the middle or end of February; and you may expect to gather from them ripe cherries in the beginning of April. But the Early Apricots, Plums, Peaches, and Nectarines, will not be ripe before the beginning of May; and theſe ſucceed one another at intervals, according to the ſorts, as they ripen againſt common walls. Early Grapes will appear in June and July; but curious late ſorts, which will not ripen without artificial heat, will not come in until the end of September or October. Gooſeberries and Currants will be found ripe nearly in April; and at the ſame time Strawberries in great profuſion will abound. Eſculents in the border will be ripe ſome months before they could otherwiſe be obtained. Roſes will be in full blow in April; and if planted in pots, their balmy fragrance may be communicated to our rooms; and we may be there regaled with the all-cheering ſweets which are continually emitted from them.

And thus may we, in theſe various ways, be feaſted with thoſe luſcious bounties of Nature, and anticipate the time of their regalement, by the due application and exerciſe of our own art; which will occaſion reflections that will ſtill heighten their worth to ourſelves, and excite wonder and pleaſing admiration in others.

After the fruit is entirely gathered, the glaſſes are to be taken away, and carefully ſet in a convenient place until the end of December following; then all the parts are to be put together to the other wall, the fires are to be lighted in January, and the operation of the enſuing year muſt be performed as before.

The borders are to be prepared, and the trees are to be planted and trained as in the common way; and the fruit will ripen earlier, if laid cloſe againſt the wall, than when trained to a trellis: Nevertheleſs, as trelliſes are chiefly uſed, if the trelliſes are of oak, they may be ſet down the year after planting, that the branches may be regularly trained up to them, and they will laſt as long as moſt of the trees; eſpecially the Peaches, Nectarines, and Cherries, which, in general, are but of ſhort duration with this kind of treatment. If the trelliſes are of leſs durable wood, they ſhould not be made before the trees are got into a bearing ſtate, otherwiſe they will not laſt long enough for the full diſcharge of their office.

The pruning of the trees ſhould be the ſame as againſt other walls; only the branches ſhould be cut rather ſhorter, and all weak and irregular ſhoots entirely taken off, leaving juſt a ſufficient number to afford a good crop of fruit: For as theſe bloſſoms will not be ſo liable to be deſtroyed by blights as thoſe in the open air, a ſufficient quantity of bearing wood only need be left on the tree, which will both ſtrengthen it, and cauſe the fruit to be larger and better taſted.

The pruning alſo ought to be performed in the autumn as ſoon as the leaves are fallen, eſpecially the year before the trees are to be forced; for this will cauſe their buds to ſwell, and be ready ſooner to burſt forth into bloſſom, when the fires are lighted.

The expences attending hot-walls more than common walls is very inconſiderable, except the vaſt charge of the glaſs-work. The difference in the coſt of building ſuch walls and common walls of the ſame height, is trifling; and with regard to the conſumption of fuel, there is nothing ſo formidable in it as might be imagined; for the fires need not be lighted before January, one fire only in an evening is requiſite, and they may be totally diſcontinued by the middle of May; ſo that where fuel is tolerably cheap, ſuch expence is hardly worth regarding. But as the charge of the glaſs-work is a real obſtacle, many are content with uſing canvas or oiled paper inſtead of glaſs, which is found to ſucceed very well, eſpecially if the fires are not lighted until February or March.

Oiled paper is to be preferred before canvas, and the frames for it ſhould be the ſame as thoſe for the glaſs, only much lighter. The ſheets of paper muſt be firſt paſted together, and when dry inſerted in the frames: After that the paper muſt be oiled; the beſt way of doing which will be with a ſoft bruſh; it then ſoon becomes dry and pellucid, admits the rays of the ſun freely to paſs through it, is ſtrong enough to keep off the rain and winds, and immediately becomes fit for uſe. The paper of theſe frames will laſt only one ſeaſon, but they are renewed at a ſmall expence; and as they are ſo very light, and eaſy to be managed, they are in great requeſt with moſt Gardeners.

Others, again, there be who uſe ſtill leſs expence than either of the ways above-mentioned; and that is, by having no covers at all. They light their fires the end of February, or beginning of March, letting the trees be expoſed to any weather as it ſhall happen: Theſe will ſoon ſhew that they are ſenſible of the genial warmth the wall affords them, by exhibiting a profuſion of bloſſoms, whilſt the other trees remain ſeemingly inactive; the bloſſoms in a little time will be ſucceeded by the fruit, which will grow, and become ripe three weeks or a month ſooner than that againſt common walls; and ſuch fruit, it is pretended, by having the full benefit of the air and dews, will be of a more heightened flavour than that which has been more forced.

Of WALLS Heated by DUNG.

Directions for building the walls,

THIS is a very cheap and eaſy way of forcing of fruit, where a ſufficient quantity of freſh dung is to be had; but as that is not often the caſe, this method can be rarely practiſed. It is to be practiſed, indeed, by thoſe only who live in large towns, and can readily procure dung from the inn-ſtables, or ſuch as keep as many horſes of their own as can produce dung enough for the purpoſe: And theſe, by a proper uſe of the dung, may obtain wall-fruit three weeks or a month ſooner than in the common way. For this purpoſe, firſt, let a wall be built in length in proportion to the quantity of dung you can be ſure of raiſing to warm it. Let it be built near the ſtables, or the place from whence the dung is to come. Let the materials be brick, and let it be as thin and light as may be, that it may the more eaſily be warmed by the dung for the benefit of the fruit.

and for bringing forward their fruit.

Let the borders be prepared in the uſual way, and let them be planted with the like kind of trees as againſt the flue-walls. Let them be trained like them; and when they are got into a good bearing ſtate, proceed to bring them forward in the following manner: Let the dung be brought from the ſtables, and laid in heaps near the back of the wall; let theſe heaps be turned over every day, and in about twelve days the dung will be in proper temperature to apply to the wall. Spread it evenly, and gently preſs it down with the back of your fork, in the manner you make the hotbeds. Let the breadth at the baſe be four feet, and draw it in like the roof of an houſe until you get to the top of the wall, where its breadth ſhould be one foot, or more; and as you find it ſettles or ſinks down, freſh dung muſt be added, if the trees are large, that every part of the wall may receive an equal heat.

In about a month's time the heat will be ſo far abated, that it will be required to be renewed. The beſt way will be, if there be freſh dung enough, to take the old entirely away, and make a ſloping pile in the like manner as before; nevertheleſs, if there is a ſcarcity of new dung, it may be mixed with ſome of the old dung that has already fermented, and it will heat afreſh. In about a month's time a freſh pile of dung muſt be made again, and ſo you muſt continue it until April, May, or longer, according to the fruit you have to ripen. Cherries, Gooſeberries, and Currants, may be made to ripen thus very early in May, and ſome Apricots by the end of that month; Peaches and Nectarines in June; early Plums at the ſame time; and, by the aſſiſtance of theſe walls, the early ſorts of Grapes may be brought to the table in July.

In ſhort, the heat acquired this way is not at all inferior to that produced from the flues; and if a perſon is willing to be at the expence of frames and glaſs-work to confine the air, and keep it to a due degree of warmth, the different ſorts of fruit may, with good management, be brought on this way as early as by actual fire in the furnace of the flues.

But this practice is partial. It is to be exerciſed by thoſe only who have plenty of ſuperfluous dung; and to ſuch as abound with this ingredient the method is recommended: To others it would be a great and extravagant expence; but to thoſe, except the ordinary charges attending wall-fruit, the expence is no more than the ſmall labour of wheeling the dung, and placing it againſt the wall; and when the heat is evaporated, after having been employed for theſe uſeful purpoſes, it is manure equally valuable for land as if it had been all along uſeleſsly rotting in the dunghill.

As ſome ſorts of fruit proper for forcing ripen earlier than others, reaſon directs us to plant thoſe together which ripen nearly at the ſame time againſt theſe walls, that the application of the dung for their forwarding may ceaſe at proper diſtances; for it would be very injurious to the trees to keep them forcing after the fruit is gathered; which muſt inevitably be the caſe, if an early kind is planted next to a late one.

Of the ICE HOUSE.

THE uſe of Ice is now become ſo general in hot weather in ſummer, that there is ſcarcely a family without a repoſitory to afford Ice for the Cook's purpoſe in the different articles of that department. Ice-Houſes have been generally mean buildings, thatched, and frequently crowded with trees, under a notion of keeping the place cool; but experience teaches us, that ſuch places are very improper for the Ice Houſe; and that the building, if a perſon chuſes it, may be ſuperb, and made to join in the ornamental ones of the garden.

Proper ſituation

Whether it is deſigned for ornament or not, the ſituation of the Ice-houſe ſhould be on as dry ſoil as poſſible, and where there is a due admiſſion of air.

and form of the Ice-houſe.

As to the form of it, That may vary according to the taſte of the owner. If its uſe is only for the preſervation of Ice, it may be as mean as poſſible, and as much out of ſight as may be: If it be intended for an ornamental building, as well as affording Ice for uſe in hot weather, it may be in any conſpicuous part of the garden, and may be either built circular, ſquare, triangular, hexagonal, octogonal, or in any figure moſt ſuitable to the place and the owner's taſte. If no naturally dry ground for the Ice-houſe is at hand, and the land be ſtrong and retentive of moiſture, the place muſt be elevated above the common level, and drains muſt be laid to carry off all redundant moiſture, or your Ice will be in danger of melting, and your hopes deſtroyed.

General directions for building it.

Having fixed upon a proper ſpot, or made it ſuitable by raiſing the ground one, two, three, four, or more yards above the level, according to the degree it poſſeſſes of being more or leſs damp, the firſt ſtep towards forming an Ice-houſe is to dig a well. This ſhould be ſix, eight, or ten feet in diameter, according to the quantity of Ice wanted; and the depth ſhould be proportionable to the breadth, or quantity of Ice wanted. At the bottom of the well ſhould be a drain to carry off moiſture of any ſort; and a grate compoſed of wooden bars ſhould be formed two feet above the bottom of it, to ſeparate that part from the Ice, receive the moiſture, and convey it to the drain for its more immediate diſcharge. The well being thus ſunk, and the drain and wooden grate laid, the ſides ſhould be guarded with a good ſtone or brick-wall, two or more feet thick. This wall may be carried up to any deſired height; it ſhould be arched over, and a hole ſhould be left for the admiſſion of the Ice; and then another wall of any figure muſt be built, arched over at the top. This wall is the lower ſhell of the houſe, and if deſigned to terminate a view, or if it be in any conſpicuous part of the garden, it may be made ornamental in proportion to the goodneſs of the ſituation, the owner's taſte, or the expence he would chuſe to go to. This wall is to ſupport the roof, which may be ſlated, tiled, or thatched at the owner's pleaſure; obſerving to have a good quantity of ſaw-duſt, at leaſt a foot thick, laid immediately under the covering, the better to keep the place in cool and even temperature: In this wall muſt be the door-place for the bringing in and taking out of the Ice. If the building is not deſigned for ornament, but is in an obſcure place, the leſs it fronts the North, it will be the better. If the houſe be built in the ſummer or autumn, the parts will be dry enough to receive Ice the winter following.

Method of ſtoring the Ice.

Then ſome of the ſtrongeſt and cleareſt Ice that can be got ſhould be brought, becauſe it will be leſs liable to melt than thin Ice, and may eaſily enough be beat to pieces. Place at the bottom of the well ſome reeds, ſtraw, or faggots made of thin twigs, and lay them even, on which to lodge the Ice: Next beat or ram down the Ice cloſe as you put it into the well; and at intervals of about a foot from each other let there be interſtices between the Ice and the wall two or three inches ſquare, from which any moiſture that may happen may drain off. When the well is thus filled, the hole for the admiſſion of the Ice muſt be cloſely ſhut up, and the whole guarded with old hay or ſtraw, which ſhould be preſſed cloſe to the outer double door; which being ſhut, the buſineſs is done. Ice thus rammed down cloſe in the well, and guarded, will keep two or three years, if neceſſary; and the place will be ever ready in the hotteſt ſummers to afford its cool and refreſhing ſtores for uſe.

C H A P. I.

AGARICUS CAMPESTRIS,

FIELD AGARIC, or COMMON MUSHROOM.

General obſervations reſpecting the Sorts and Culture of Muſhrooms.

THE practice of raiſing Muſhrooms in gardens is now become general among Gardeners of eminence; and though ſuch Muſhrooms are very much inferior to thoſe gathered from paſtures, yet there is this great advantage attending the practice, that they may be obtained at unuſual times, or when they are not to be met with in the common fields.

There are the male and female organs of generation belonging to the Muſhroom, the ſame as in other vegetables; but they are exceedingly minute; and the ſmallneſs or obſcurity of thoſe parts has occaſioned theſe plants being arranged under the Claſs *Cryptogamia*. Minute, however, as the parts are, the ſeeds are properly fecundated by the fine duct of the antheræ which are annexed to the *Lamellæ*, commonly called the Gills: The ſeeds ripen by ſuch time as the Muſhroom is full grown; and dropping and penetrating into the ground, ſoon become the embryo of a future plant. They alſo multiply exceedingly by off-ſets. Theſe appear like ſo many ſmall, whitiſh, roundiſh knobs, and numbers of them are found together collected in lumps or cluſters. Theſe are all ſuitable for the Gardener's purpoſe, in order to obtain a crop of Muſhrooms: Theſe he uſually calls *Spawn*; and he ſearches for them either in old Muſhroom-beds, or in the fields.

Field-Muſhrooms growing as Nature gives them, without art, are vaſtly ſuperior to thoſe raiſed on the beds: But as in theſe there are different degrees of goodneſs, and ſome are ſo bad as not to be wholeſome, it will be neceſſary that the Gardener be certain what ſorts are the beſt of the true kind, from which he gathers his ſpawn.

Characters of a good Muſhroom.

The characters of a good Muſhroom then are, 1. That the ſtalk, the upper-ſurface, and the fleſh, be thin, and of a clear or ſattiney-white colour: 2. That the gills be of a lively red or fleſh colour: 3. That on their firſt appearance they come up round and compact, like ſo many buttons: and, 4. When full-grown they become flat; and the gills, which were before of a fine red, are changed to a very dark-brown, approaching to a black colour.

This is the character of the beſt ſort of the true kind of Muſhroom. From the places where theſe are found growing, the Gardener is to collect his ſpawn. They uſually ripen in the autumn, which is the ſeaſon for making his beds; and the manner of gathering it is as follows:

Manner of gathering the Spawn.

Let the earth be dug up carefully with a ſpade, and let as much as conveniently can, be removed at each ſpade-full, that there may be leſs chance of cutting through the knobs or lumps of ſpawn; then with your hands divide every ſpade-full of mould as it is taken up; and whenever you meet with any lumps of ſpawn, lay them aſide without dividing them, preſerving their own mould about them. Repeat this operation until you have ſpawn enough for your purpoſe.

Next take them carefully home without breaking, in a large baſket or baſkets provided for the purpoſe, and lay them upon a table in an airy room, that they may be in readineſs againſt ſuch time as they are wanted.

Directions for making Muſhroom-beds.

The end of Auguſt is a good time to make the Muſhroom-bed; and it ſhould be made with horſe-dung and litter from the ſtables, after the firſt heat is paſſed over. Accordingly a ſufficient quantity of dung muſt be ſet apart for the purpoſe. It muſt be laid in heaps, and often turned over; and in about three weeks the violent heat will be abated, when it will be in proper condition for your Muſhroom ſpawn. A ſmall degree of warmth only is neceſſary to cauſe them to riſe; and if this degree be too violent, they will riſe black, long-ſhanked, and appear like what the vulgar call Toad-ſtools on the bed.

Having your dung in good order, let a place in a dry ſpot be marked out for the beds; let its breadth be three or four feet, and the length according to the number of ſpawn you have to plant; or let two, three, or more ſhort beds of the ſame breadth be made parallel to each other, according as beſt ſuits your purpoſe.

Let the mould in each bed be dug out one foot deep; then ſhake in the dung with a fork, laying it even, and gently preſſing it down until it is two feet thick, one foot of which will be below the ſurface, the other foot above the common level; ſo that the mould out of the trench muſt be laid againſt the ſides of the beds, with an addition of the ſame mould out of the field in which the Muſhrooms grew: The bed alſo muſt be covered with one foot thickneſs of light, rich, freſh mould; and if this be taken from the paſture where the ſpawn was collected, it will be ſo much the better.

On the edge of this ſtratum of earth plant the knobs of the ſpawn half an inch deep, and at ſix inches diſtance from each other. Upon this bed lay a freſh layer of dung a foot thick, and on that dung lay a ſtratum of mould of the like thickneſs; obſerving to draw in as you advance in height, in the manner of a ridge or roof of a building. On this lay another layer of dung, ſtill narrower than a ſtratum of earth; and continue this until both ſides meet and form the ridge; obſerving always to lay the earth along the ſides, and to plant the ſpawn half an inch deep. The bed being thus completed, muſt be thatched down, or covered with ſtraw or litter a foot or more thick, to prevent the mould from drying too faſt, to protect it from great rains, and to guard it againſt froſts; all of which in too violent a degree are deſtructive to the Muſhroom beds.

In about ten days your Muſhrooms will probably appear; the litter therefore about that time muſt be taken off, to ſee in what manner they ariſe. If they come up long-ſhanked, black, or of a brown colour, it is a certain ſign that the dung heats too violently for them: This, however, will ſoon be off; and in this caſe nothing more need be done than to draw out all ſuch Muſhrooms, riddle over the bed ſome fine earth, and thoſe which come up next will be round, and of a good colour.

From this time they muſt be gathered every day, otherwiſe they will grow too large, and, decaying, become proper food for a ſmall maggot which will breed in them in prodigious quantities; and theſe will thruſt their way to the very bottom of the root, and will deſtroy all the young ſpawn or off-ſets that are near them. This teaches us not to cut the Muſhrooms, as is too often practiſed; for the ſtump that is left in the ground decaying, becomes a proper nidus for the eggs, in which they ſoon become maggots, will grow, feed, and in a little time will deſtroy the ſpawn beneath: They are beſt, therefore, gathered with a gentle twiſt; for this will effectually take away all the ſtalk, and not draw out part of the ſpawn along with it, as too frequently happens when they are pulled up in a perpendicular direction.

About the end of September let another bed or beds be made in the like manner; let them be guarded againſt exceſſive rains and froſt; and from theſe and the former beds good Muſhrooms, if very ſevere froſts do not happen, may be gathered all winter and the ſpring following.

Plenty of ſpawn alſo will be produced for a ſucceſſion of Muſhrooms in freſh beds, if you chooſe it; ſo that when it cannot be eaſily obtained from the paſtures, it may be taken from an old Muſhroom-bed. If laid in a dry room, it will keep for many months; and the ſmalleſt off-ſets, though taken from the old beds in May, and then laid by in a dry, airy place, will keep very well, and will be proper ſpawn with which to plant a freſh hotbed the September following.

From the firſt planting of the Muſhroom-bed to the taking it down, if very heavy rains ſhould happen, the thatch or covering ſhould be encreaſed; and if ſuch ſhould not prove a ſufficient protection, doors, boards, or the like, ſhould be laid over them, or otherwiſe the ſpawn will be rotted, and your future hopes rendered abortive.

If intenſe froſts happen, the like precaution muſt be attended to; and if they are guarded againſt theſe evils, your beds will be pretty ſure of affording you plentiful crops.

Freſh beds ſhould always be made in the ſpring, to afford Muſhrooms for ſummer uſe; and if the work be repeated at proper intervals, Muſhrooms from one or other of theſe beds may be collected all the year round.

Titles. The Muſhroom is titled, *Agaricus ſtipulatus, pileo convexo ſquamato albido, lamellis rufis.* In the *Flora Lap.* it is termed, *Agaricus caulefcens pileolo ſordido lacero, pileo albo membranacco, lamellis rufeſcentibus.* Guettard calls it, *Agaricus pediculo annulato pileo, ſupernè albus, infernè rubens*; Caſpar Bauhine, *Fungus campeſtris albus ſupernè, infernè rubens*; and Parkinſon, *Fungus eſculentus.* It grows naturally in meadows and paſture grounds in moſt parts of England.

C H A P. II.

ALLIUM, GARLICK.

THE following uſeful articles in our Kitchen Garden belong to this genus:

Species.
I. Garlick.
II. Rocambole.
III. Ramſon.
IV. Shallot.
V. Leek.
VI. Onion.

Theſe are all diſtinct ſpecies of *Allium*, and ſhall be treated of in their order.

Culture of Garlick. I. *Allium Sativum*, Garlick. Sowing of the ſeeds of Garlick is altogether unneceſſary, as it increaſes very faſt by the root: The bulbs, called cloves, therefore, of this ſpecies are to be planted to encreaſe the ſtock. For this purpoſe, early in April, prepare a bed of a ſufficient ſize to receive the quantity of cloves you would chooſe to plant; let it be well dug and made even, and plant your cloves at ſix inches diſtance from each other. If very dry weather ſhould ſucceed their being planted, a little water now and then will be of great ſervice to them; and after they are come up, nothing need be done except keeping them clean from weeds until the beginning of June, at which time the leaves ſhould be tied in knots; and this will cauſe the bulbs to grow larger, by preventing the plants from running to ſeed.

By the middle or end of July you will find the leaves decayed, and then is the time for taking up the bulbs; let a dry day therefore be choſen for that purpoſe. After they are taken up, ſpread them upon a mat in a dry, airy place, and turn them every day for four or five days; after that tie them in bunches, and hang them in any convenient room to be ready for uſe.

Culture of Rocambole II. *Allium Scorodoprasum*, Rocambole. The propagation of this ſpecies is exactly the ſame with the former, and the encreaſe from the root is amazing. It will grow in almoſt any place, though it rather delights in a moiſt ſituation; and for want of this, if the weather ſhould prove dry, by giving them a good watering every ſecond or third evening, you will find your trouble abundantly recompenſed by the extraordinary encreaſe they will make. After all, if your ſoil is naturally very dry, it will be adviſeable to plant the bulbs in the autumn, which will cauſe them to grow larger than if deferred until the ſpring. All along keep them clean from weeds; and when the leaves are decayed, take up the roots, and ſpread them in an airy place a few days to dry, then tie them in bunches, and hang them in a convenient place to be ready for uſe.

and Ramſon. III. *Allium Urſinum*, Ramſon. This plan is found growing naturally in many of our woods and hedges, and the culture and management is exactly the ſame as the former.

Culture of Shallots

IV. *Allium Aſcalonicum*, Shallots. Theſe are to be planted in the beginning of March, in rows about ſix inches aſunder. When they come up, keep them clean from weeds, and water them now and then, if the weather ſhould prove very dry. When the leaves are decayed take up the roots, and ſpread them upon a mat a few days to dry; turn them every day, and when they are in proper order put them up to be ready when wanted.

and Leeks.

V. *Allium Porrum*, the Leek. There are two or three ſorts of Leeks, but the beſt for uſe is that called the London Leek.

In order to have a crop of Leeks, let a piece of ground in a rich part of the Kitchen Garden be well dug, and the ſurface made level and even; then about the middle of March ſow your feeds; and if the weather prove dry afterwards, water the beds every other evening. This will effectually bring your plants up; and in a little time after they muſt be thinned to about ſix inches diſtance from each other. Keep the beds clean from weeds; and about the beginning of June tranſplant them to a well-prepared piece of ground, planting them in rows a foot aſunder, and at eight or ten inches diſtance in the rows, according to the ſize of your plants or richneſs of your ſoil. A moiſt day ſhould be choſen for the purpoſe; and for want of this the work ſhould be done in an evening, and the plants ſhould be watered every other day until they have taken root. The fineſt and the largeſt plants are moſt fit for this purpoſe, whilſt the ſmaller are to be left undiſturbed in the ſeed-bed. At the time of their removal, ſhorten the long blades, and trim the long fibres, keep the ground conſtantly clean from weeds afterwards, and theſe removed plants will grow to a greater ſize than if they had remained undiſturbed in the ſeed-bed.

Sweet Leeks multiply exceedingly by the roots, and are a very uſeful pot-herb. They ſhould be removed every other year, or their bulbs will grow ſmall. The beſt time for this is in the ſummer, when the leaves are decayed; then they ſhould be taken up, or they will ſoon ſprout out afreſh, and may be either planted again immediately, or may be kept in a dry room, and planted any time in the autumn or ſpring.

How to raiſe Leeks for ſeed.

In order to have good Leek-ſeed, the beſt and ſtrongeſt plants muſt be marked for the purpoſe. Theſe muſt remain in the ſeed-bed until February, when they ſhould be taken up and planted againſt a ſouth wall or hedge at a foot diſtance from each other. When their heads get heavy, they are very liable to be broken down by the winds; to prevent which, each ſhould be faſtened to a ſeparate ſtick; or a line drawn through the whole row may ſo keep them in an upright poſition, as to prevent any danger of that ſort.

It is neceſſary to have their ſituation warm, becauſe Leek-ſeeds do not always ripen freely in England, if the autumn proves unfavourable. The early froſts often deſtroy them; much wet and cold alſo greatly injure them; on which account the nearer the Leeks are planted againſt the wall, to be ſhielded from thoſe injuries, the better.

When the ſeed is ripe, the uſual method is, to cut off the heads with part of the ſtalk, and tie them in bunches, hanging them up in a dry airy room to be ready for the ſeed to be threſhed out a little before it is wanted. Leek-ſeeds ſhould never be gathered from old plants; as ſuch ſeeds will always produce narrow-leaved, ſmall, and very bad plants in return.

VI. *Allium Sepa*, the Onion. The variety of Onions is very great, and freſh ſorts are yearly obtained by ſeeds; they run, however, from one to the other, and the principal permanent ſorts are,

Sorts of Onions.

1. The Common Spaniſh or Portugal Onion.
2. The Straſburgh.
3. The Silverſkinned.
4. The Blood-red.
5. The Welch.

One common culture belongs to the four firſt ſorts, with all their varieties; but the Welch Onion, being deſigned for other purpoſes, requires a different treatment.

Culture of Welch Onions.

In order to raiſe a crop of Onions, then, let a piece of light ground be well dug, and the ſurface made ſmooth and level, againſt the beginning of March. Then in the firſt week of that month, if dry weather ſhould happen, lay it out into beds four or five feet broad, and in theſe ſow your Onion-ſeeds with an even hand, and rake them well in; afterwards neat up your beds, and the firſt ſtep towards a crop of Onions is done.

When the plants have been up about three weeks, they ſhould be thinned to two inches diſtance from each other; and this may be done by drawing them with the hand, or with a ſmall inch hoe. If large quantities are ſown, the latter method is moſt eligible; if a ſmall parcel only for common uſe, it is beſt to draw them with the hand; and ſuch drawn plants will not be loſt, but may be reſerved for the immediate uſe of the table.

Weeds muſt be conſtantly pulled up as they ariſe; and about the middle or end of May your Onions muſt undergo a ſecond thinning, either by the hand or hoe: At this time they ſhould be left three inches aſunder, and all the while the drawn plants may be made to ſerve for table-uſe. About three weeks or a month after this, another thinning muſt be effected, and then the plants ſhould not be left nearer than five inches from each other; by which means the remaining plants will arrive at their proper ſize of growth, will be in perfection, and of more value than double the number of Onions that had grown on the ſame ſpot without ſuch thinning.

In Auguſt, or early in September, you will find the tops of the Onions grow yellow, and fall to the ground; and that is an indication that your bulbs are arrived at their full growth. After that, in a dry day, pull up your Onions, and lay them in the alleys between the beds, or in ſome ſituation where they can have plenty of ſun and air; then let them lie for a fortnight or three weeks, turning them every day; and when you find they are ſufficiently dry and hardened, remove them in a fine warm day into the houſe, to be ready for uſe.

At this time be careful you do not mix any damaged or decayed bulbs with the others, as the contiguous ones will ſoon take the infection, and numbers by that means in a little time be ſpoiled. On this account alſo you ſhould frequently look carefully over your Onions; and whenever you find any that are decayed, immediately take them away.

At the time of houſing, a ſufficient quantity of the firmeſt and compacteſt bulbs ſhould be roped, to be hung in a dry room, to be kept for ſpring-uſe. Before the ſpring has made much advance, uſe all the care you can, your onions will frequently be for the moſt part rotten or ſprouting; but as they keep the beſt in the ropes, that method for the later ones ſhould be purſued. The room they hang in ſhould be dry and airy; and if the bottom of the root is ſinged with a hot iron, it will prevent their ſprouting, and cauſe them to continue good for a much longer time.

Their after-management.

When large quantities of onions are to be raiſed for ſale, the ground ſhould be rich and well dug, and about ſix pounds of ſeeds will be ſufficient to ſow an acre. Thinning them in the uſual way muſt never be omitted; but this muſt always be done by the hoe. At theſe times all the weeds muſt be carefully hoed up and deſtroyed; and the more effectually to accompliſh this, every hoeing muſt be performed in dry weather. When the onions are pulled up, they may lie upon the ground they grew on for about a fortnight, turning them every day to prevent their ſtriking root afreſh; and after that, they may be ſent abroad to the different markets for ſale. In ſome counties the cuſtom is to rope them all; in others, to ſell them by the meaſure: They certainly will keep beſt in the ropes; but when ſold by the meaſure, they are always attended with the leaſt trouble to the Gardener.

Some people ſow Leeks and Onions together, that when the Onions are drawn off, a crop of Leeks may occupy the ground; but this is a very bad cuſtom: For by trampling to draw off the Onions, the Leeks will be greatly injured; and thus neither ſort will be brought to perfection.

Deſcription and Properties of five ſorts of Onions.

The moſt common Onion is the Spaniſh, which is flat or round. The Straſburg is oblong, and is an excellent Onion for keeping. The Portugal is very mild and ſweet; but Onions of that ſort raiſed here, are not ſo mild and fine as thoſe we have imported from Portugal. The Silver-ſkinned is ſeldom raiſed, tho' it is very mild, and as it boils white is very valuable. The Blood-red is the moſt beautiful when growing, the outer coat being of a fine deep-red; but it is a ſtrong Onion, and inferior in flavour to the other ſorts.

Directions for raiſing Welch

Welch Onions are raiſed for ſpring uſe, and are in eating before the early Onions come in. For this purpoſe, ſow the ſeeds the laſt week in July in a well-prepared bed, ſifting over them about half an inch of the fineſt mould. If the weather proves dry, every other evening water the bed; and this will ſoon bring up your Onions. As weeds ariſe, draw them out, and in autumn the blades of your Onions will wither and decay; at that time ſift over the bed about half an inch of freſh mould, and this is all the trouble they will require. In February they will appear above ground, and in March will come into eating, and continue good until the early Onions come in.

and Spaniſh Onions;

Spring Onions alſo are eaſily formed from ſuch winter Onions as are found ſprouting in the houſe: In order, therefore, to raiſe a crop of theſe in February, look over your Onion room, and take out all ſuch as are ſprouting, and plant them in a bed, at three inches diſtance from each other, and they will ſoon be large enough for uſe.

Scallions,

Scallions alſo are another ſort of Onion much eſteemed in the ſpring. Theſe are propagated by parting of the roots, the beſt time for which is the autumn. They ſhould be planted by themſelves in beds, at a ſmall diſtance from each other. They are very hardy, and, bidding defiance to all cold, come into uſe on the very firſt approaches of the ſpring.

Chives,

Chives are preferred by ſome to any of theſe ſorts, though they come in later. They are very common, afford an excellent potherb for the houſewife, and are in great eſteem in ſpring-ſallads. Their propagation is very eaſy, and they multiply exceedingly. In the ſpring let a bed be well dug in a dry part of the garden, and in this plant your Chives in rows, at about four inches aſunder; three or four roots ſhould be planted in each hole, and they will ſoon ſhoot up and be fit for uſe. The roots ſhould be taken up and divided every other year, to keep them within bounds, and continue them in perfection; for if this is neglected, they encreaſe ſo very faſt that the roots in each bunch will be crowded; by which means the blades will be proportionally weaker, and of leſs value.

In order to have Chives very early in the ſpring, they ſhould be planted in a warm, rich border under a ſouth-wall; and theſe will ſhoot up, and be fit for uſe a week before thoſe planted in the expoſed parts of the garden.

and Straſburgh Onions.

The Straſburgh Onion alſo ſhould be ſown in the middle of July, to come in for ſpring uſe; but this is not entirely to be depended upon; for in very ſevere winters the young Onions are liable to be deſtroyed, but in moderately mild winters they will keep green, and may be pulled all winter and the ſpring following.

A bed for this purpoſe ſhould be made in a warm, well-ſheltered place, and the ſeeds ſhould be covered near an inch deep with very fine mould. This is much deeper than what Onions ought to be ſown, but it is neceſſary in this caſe; becauſe the roots being deep in the ground, the plants will be leſs liable to be thrown out by the froſts. If dry weather happens from the time of ſowing, they muſt be carefully watered every other evening until they come up; they muſt afterwards be kept clean from weeds, and thinned where they come up too cloſe; and this is all the trouble they will require until they are drawn for uſe.

When theſe ſucceed, they afford the beſt kind of Spring-Onions, and are admirable to join with other ſallad-herbs early in the ſpring.

How to raiſe Onions for ſeed.

In order to raiſe good Onion ſeed, the beſt bulbs of the different ſorts that have remained ſound in the houſe all winter, muſt be ſelected for that purpoſe. About the end of March, therefore, get a ſufficient quantity of ſuch hard, firm, round, ſound bulbs; and having well dug a piece of ground, and laid it out in beds four feet broad, plant the bulbs a foot aſunder each way, and about three inches deep. Each bed will then contain four rows, and alleys ſhould be left between the beds, two feet in width, for the conveniency of keeping them clean from weeds, without trampling among your plants. This muſt conſtantly be attended to; and the plants having no impediments, will flower ſtrong in June. In Auguſt, or early in September, your ſeeds will be ripe; then the heads muſt immediately be cut off; for if this is omitted but a few days, the beſt ſeeds will be diſcharged from their huſks, and loſt. Gather them therefore as ſoon as you find their cells begin to open, ſpread them upon a cloth, and expoſe them to the ſun and air in the day-time, but remove them under ſhelter for the night; and when you find they are thoroughly hardened, threſh or ſhake them out, and put them up in bags for uſe.

Roots of the Welch Onion muſt be planted out in March, and their ſeeds will be ripe in the Autumn.

Titles. 1. Garlick is titled, *Allium caule planifolio bulbifero, bulbo compoſito, ſtaminibus tricuſpidatis.* In the *Hort. Cliff.* it is termed, *Allium radicis bulbo multipartito, capitulo bulbifero, foliis linearibus*; Caſpar Bauhine, *Allium ſativum*; and Cammerarius, ſimply, *Allium.* It grows naturally in Sicily.

2. Rocambole is titled, *Allium caule planifolio bulbifero, foliis crenulatis: vaginis ancipitibus, ſtaminibus tricuſpidatis.* In the *Flora Suecia* it is termed, *Allium capitulo bulboſo erecto, foliis planis ſubcrenatis: vaginis ancipitibus.* Caſpar Bauhine calls it, *Allium montanum bicorne latifolium, flore dilutè purpuraſcente.* It grows naturally in Oelandia, Dania, and Pannonia.

3. Ramſon. This is titled, *Allium ſcapo nudo ſemicylindrico, foliis lanceolatis petiolatis, umbellâ faſtigiatâ.* In the *Flora Suecia* it is termed, *Allium foliis lanceolatis, ſcapo nudo ſemicylindraceo, bulbo ſetis obvallato.* Caſpar Bauhine calls it, *Allium ſylveſtre latifolium*; Gerard, *Allium urſinum.* It grows naturally in England, and moſt of the Northern countries of Europe.

4. Shallot. This is titled, *Allium ſcapo nudo tereti, foliis ſubulatis, umbellâ globoſâ, ſtaminibus tricuſpidatis.* In the *Hort. Cliff.* it is termed, *Cepa foliis ſubulatis, radicibus oblongis conglobatis.* Moriſon calls it, *Cepa Aſcalonica*; Caſpar Bauhine, *Cepa ſterilis.* It grows naturally in Paleſtine.

5. The Leek is titled, *Allium caule planifolio umbellifero, ſtaminibus tricuſpidatis, radice tunicatâ.* In the *Hort. Cliff.* it is termed, *Porrum radice ambiente tunicatâ oblongâ ſolitariâ.* Caſpar Bauhine mentions two ſorts of it; one he calls, *Porrum commune capitatum:* The other, *Porrum ſativum latifolium.* It is not certain in what part of the world the Leek naturally grows.

6. The Onion is titled, *Allium ſcapo nudo infernè ventricoſo longiore foliis teretibus.* In the *Hort. Cliff.* it is termed, *Cepa ſcapo nudo ventricoſo, foliis longiore radice depreſſâ.* Caſpar Bauhine calls it, *Cepa vulgaris*; and mentions other ſorts with titles, &c. It is not certain in what part of the world the Onion naturally grows.

CHAP. III.

ANETHUM GRAVEOLENS, DILL.

THERE are only two ſpecies of *Anethum*, the Common Dill, and Fennel of our gardens. They are both well known plants, and are remarkable for their eaſy culture; for, after having once ſtocked a garden, they will ſow themſelves, and come up without further care.

Culture. The ſeeds muſt be ſown in the autumn, ſoon after they are ripe. They will readily come up; and in ſpring hoe them to about a foot aſunder: By leaving them at that diſtance, they will not draw up weak, but become good, ſtrong, flouriſhing plants. When the ſeeds are ripe, cut up the plants, and ſpread them in a ſhady place, and afterwards threſh them out for uſe.

Theſe plants ſhould always be ſown where they are to remain, for they will not bear tranſplanting. They love a light ſoil, and ſhould always be ſown in the autumn, becauſe few of the ſeeds will grow, if left until the ſpring.

Such as are deſigned for Cucumber pickle, (for to theſe they give an excellent flavour) ſhould be cut up ſoon after the flowers are fallen, and the ſeeds are about half grown.

Titles. Dill is titled, *Anethum fructibus compreſſis.* Caſpar Bauhine calls it, *Anethum hortenſe.* It grows naturally among the corn in Spain and Portugal.

CHAP. IV.

ANETHUM FOENICULUM, FENNEL, or *FINOCHIA.*

THE Latin word *Fœniculum* has been long uſed for the Fennel; it is now made a ſpecies of *Anethum*, and joins in brotherhood with Dill. Of the Fennel there is only one real ſpecies, though it admits of ſeveral varieties; the moſt remarkable of which is the ſweet Azorian Fennel, or *Finochia.*

Culture. The Common Fennel calls for no culture; for having once obtained a few ſeeds, the garden will be over-run with plants, and cauſe as much trouble as weeds to keep it clean from them. To get a ſtock at firſt, ſow the ſeeds in autumn, ſoon after they are ripe, and afterward you can never get rid of them; for theſe will promiſcuouſly come up, the Green, called the Common Fennel, the Brown, and the Long-leaved White-ſeeded ſorts. Hoe theſe to a proper diſtance, and give them room to flouriſh, if quantities are wanted for uſe; for the roots, leaves, and ſeeds, are admirable in medicine; and they are often raiſed in plenty for thoſe purpoſes. But where there are no ſuch views, the beſt way will be to leave a few plants only for the purpoſes of pickled ſalmon, and the like; and as theſe get too old, there will be always young plants enough ſpringing up for a ſucceſſion.

The plant deſcribed.

Finochia is in high eſteem among the Italians as a ſallad herb, and is much reliſhed by many of the Engliſh: It is a ſort of Fennel, which, when blanched, becomes fit for uſe.

Culture.

In order to raiſe *Finochia*, procure good ſeeds from Italy, and by the middle of March, get your ground in readineſs for their reception. This ſhould be a bed well dug, rich, light, and with an open expoſure. In ſuch a bed ſow the ſeeds thin, and cover them down with half an inch of fine mould. When the plants come up, which will be in about a month, thin them to about three inches diſtance, keep them conſtantly clean from weeds, and, againſt they are of ſize to tranſplant, let a freſh ſpot be prepared; let it be well dug, levelled, and draw lines for the trenches at two feet aſunder. The trenches ſhould not be more than three or four inches deep, and the mould at the bottom ſhould be well broke and made fine. To theſe trenches in a moiſt day, or, for want of that, in an evening, remove the plants: Let them be taken up with all care, and plant them in the trenches a foot aſunder; and if no rain happens at the time, water them well, and continue this until they have taken root. You will ſoon perceive the ſtalks ſwell a little above the ground; at which time you muſt mould them up, though very ſparingly at firſt, and the earth muſt be very fine. As they continue to ſwell, the moulding-up muſt be repeated, and in a little time the ſtalks will be very large, finely blanched, delicate, tender, and fit for uſe.

They are eat with oil, vinegar, and pepper, and are by many thought to be the fineſt cold ſallad in the world. Thoſe who prefer them ſhould repeat the operation every three weeks, by ſowing of freſh ſeeds, and managing them as before; and thus may the ſucceſſion be continued until November or December.

The laſt time of ſowing ſhould not be after July; and ſuch ſeeds as are ſown in the hot months ſhould be ſhaded and watered, to encourage their growth. They muſt alſo, after planting out, be watered frequently; and if the ground be naturally moiſt for theſe ſummer plants, it will be ſo much the better.

Titles.

Fennel, of which *Finochia* is a variety, is titled, *Anethum fructibus ovatis*. Caſpar Bauhine mentions ſome diſtinct ſorts: One he calls, *Fœniculum dulce*; another, *Fœniculum vulgare Germanicum*; a third, *Fœniculum vulgare Italicum, ſemine oblongo, guſtu acuto*; and a fourth, *Fœniculum ſylveſtre*. It grows naturally in ſome parts of France, Italy, and Spain.

Claſs and Order in the Linnæan Syſtem. The characters.

Anethum is of the Claſs and Order *Pentandria Digynia*; and the characters are,

1. Calyx. The general umbel is multiple; the partial alſo is multiple.

There is neither general nor partial involucrum.

The perianthium is obſolete.

2. Corolla. The general corolla is uniform; The florets have each five very ſhort, undivided, involuted petals.

3. Stamina are five capillary filaments, with roundiſh antheræ.

4. Pistillum conſiſts of a germen ſituated below the calyx, and two approximated, obſolete ſtyles, with obtuſe ſtigmas.

5. Pericarpium. There is none. The fruit is nearly oval, compreſſed, ſtriated, and divided into five parts.

6. Semina. The ſeeds are two, ſuboval, convex and ſtriated on one ſide, and on the other plane.

CHAP. V.

ANGELICA.

Properties of the plant.

ANGELICA is raiſed for medicinal uſes, as well as to make a very fine ſweetmeat from the ſtalks. The efficacy of this plant in medicine is beyond credit. It is ſaid to be a certain cure for the plague, and that an Emperor, being admoniſhed by an angel, ſaved his army, when afflicted with that peſtilence, by the uſe of it: From hence, ſay ſome, it took the name *Angelica*. It is more probable, that the name *Angelica* was given it on account of its extraordinary virtues; for it is certainly very efficacious in all peſtilential fevers, and contagious diſtempers, beſides being an excellent carminative, ſtomachic, cordial, ſudorific, and alexipharmic.

As a ſweetmeat, it is admirable. The tender ſtalks, cut in many pieces, are fit for that purpoſe. The confectioners make it up in plenty, and it becomes a conſiderable part of their trade.

Culture.

In order to raiſe theſe uſeful plants, ſow the ſeeds in autumn, ſoon after they are ripe; and in the ſpring plant them out where they are deſigned to grow. Let them not be ſet nearer than two feet from each other, for they are large ſpreading plants, and if they are crowded, their ſtalks will be weak. They greatly delight in moiſt, watery places; therefore the loweſt part of the garden muſt be ſet apart for them; or if they could be ſet by the ſides of ditches or running waters, it would be more agreeable to their nature, and they would be ſo much the ſtronger. All the ſummer they will form themſelves into large plants, and the ſpring following they will ſhoot up to flower: In May, therefore, let the tender ſtalks be cut for confectionary uſe, whilſt a ſufficient quantity may be left to flower, to produce ſeeds for a ſucceſſion.

Theſe plants generally die away after having flowered, ſo that this ſpecies is reckoned a Biennial; nevertheleſs, by heading the plants in May, they will ſhoot out freſh heads from the ſides of the roots, which will ſhoot up for flowering the following ſpring; and by heading it in the like manner in May, the plant may be preſerved for ſome years.

Titles.

This ſpecies is titled, *Angelica foliorum impari lobato*. Caſpar Bauhine calls it, *Angelica ſativa*; Dodonæus, *Angelica major*. It grows naturally in Lapland, by the ſides of running waters.

CHAP. VI.

APIUM, PARSLEY.

UNDER this head the following uſeful articles in our Kitchen-Garden come to be treated of:

Species.

1. Common Parſley.
2. Dutch Parſley.
3. Celery.
4. Celeriac.

Culture of Parſley.

1. Parſley is too well known to need any deſcription, and its culture ſo eaſy as to make any directions about it almoſt unneceſſary. It is uſually ſown in drills; but in order to have it in perfection, a bed of ſufficient ſize for the quantity of Parſley to be raiſed ſhould be marked out, and the ſeeds ſhould be ſcattered thinly all over it, and raked in. When the plants have been up three weeks, they ſhould be hoed to ſix inches aſunder; at the ſame time deſtroying all the weeds, and conſtantly clearing them off as they ſhall hereafter come up by repeated hoeings.

This is the way to have Parſley in perfection, both with reſpect to the leaves and roots. The roots are chiefly uſed in medicine; and whenever Parſley is raiſed on that account, it ought never to be raiſed any other way than as above directed.

The ſeaſon for ſowing it is any time in February, or the beginning of March, though it will grow at all times of the year; and after it has once ſeeded, you will hardly ever want Parſley on that ſpot of ground, as the ſeeds will conſtantly ſcatter themſelves, and afford a ſucceſſion without further trouble.

The Curled-leaved Parſley to be preferred.

There are two or three ſorts of Parſley; but the Curled-leaved ought to be preferred on account of its fine curled leaves, which make a beautiful appearance when growing, afford an admirable garniſh for diſhes, &c. and are equal in goodneſs to the Common ſort for kitchen uſe. In order to keep this ſtock up, the ſeeds muſt be ſaved from thoſe plants whoſe leaves are moſt beautifully curled, and all other plants that are near them ſhould be pulled up, otherwiſe they will ſoon degenerate to the Common ſort; but by this care your Curled Parſley will not only be continued, but improved.

Thoſe who are curious in their Parſley, ſow the ſeed every year in a freſh part of the garden.

Parſley uſeful to preſerve ſheep from the rot.

Whole fields of Common Parſley are ſometimes raiſed to be eat by ſheep to preſerve them from the rot: Others raiſe it with a deſign to allure hares, &c. from diſtant parts; and this ſometimes produces the deſired effect. When this is intended, plough the ground in September, and croſs-plough it again in November; and in February, having ploughed it over again, and harrowed it as fine as poſſible with a ſhort-tined harrow, ſow the ſeeds with an even hand, allowing a buſhel and an half to an acre. When the plants come up, the weeds muſt be conſtantly hoed down, and the plants muſt be thinned to about ſix inches diſtance, as before.

If the ſheep are turned upon the Parſley twice a week, about two hours at a time, it will preſerve them from the rot; on which account a ſufficient quantity of it ought to be raiſed in thoſe places where ſheep are very liable to that diſorder.

Dutch Parſley deſcribed.

2. Dutch Parſley. Dutch Parſley is a variety only of the Common Parſley, and is propagated chiefly for the ſake of the roots, which are very wholeſome, and will grow to the ſize of moderately large Carrots.

Culture.

They are raiſed by ſowing the ſeeds in March, on a piece of rich ground double dug. In April they will require hoeing, as well to thin them to proper diſtances, as to kill the weeds. If the ſoil is very good, ten inches plant from plant ſhould be the diſtance allowed them; if but moderate, they ſhould not be hoed thinner than ſix inches from each other: Keeping them clean from weeds muſt be attended to; and this is all the trouble they will require until they are to be drawn for uſe, which will be in September. They will continue good all winter.

The roots good for the gravel, and decays.

The roots are ſold in Holland, tied together as we do Carrots, and are much uſed there for what is called *Water Souche*. We boil them in broth, ſoup, &c. and ſometimes they are boiled and eaten like Carrots, eſpecially by thoſe who are ſubject to the gravel, for which diſorder this root is very excellent; and it is ſo uſeful in decays of many kinds, that it were to be wiſhed it was better known, and propagated in greater plenty.

A few roots left in ſome corner of the bed will afford you a ſufficient quantity of ſeed for the ſucceſſion.

Culture.

3. *Apium graveolens*, Celery. Celery is a variety of a common weed called Smallage, and it grows naturally in moiſt places in many parts of England. It is eaſily raiſed, but it requires due attendance to bring it to perfection for the table; and to continue it throughout the whole ſeaſon, different ſowings, at different times, muſt be made. Let the firſt ſowing be made in the autumn, ſoon after the ſeeds are ripe, in a warm, well-ſheltered part of the Kitchen Garden; the plants will be up in October; and if the winter ſhould not prove uncommonly ſevere, they will weather it very well without any covering. The beginning of March they ſhould be planted out in the nurſery-bed, at about three inches aſunder, and in April they may be removed to their ſituation for blanching.

The next ſowing ought to be made about the end of February, on a moderate hotbed. The dung for this hotbed ought to be well beat together, and the mould on it ſhould be ſeven inches deep. The bed muſt be well hooped, to be covered with mats as there ſhall be occaſion; and from the time the ſeeds are ſown until the plants are come up, it ſhould be watered every third evening. The mats ſhould be conſtantly raiſed in the middle of the day, but the beds ſhould be covered in nights; and this ſhould be your management until the plants come up, which will be before the end of March. After they make their appearance, the mats muſt be raiſed when the weather will permit, to make the plants as hardy as poſſible; they muſt be watered every other evening, unleſs gentle ſhowers ſhould happen; and with this care they may remain on the hotbed until the end of April or the beginning of May, when the largeſt ſhould be pricked out in a warm, moiſt, well-ſheltered place, at three inches aſunder, where they will require no other attendance than watering them every evening if the weather ſhould give occaſion, until they are to be removed to their ſituation for blanching, which ſhould be in about three weeks after.

In about a week from this, the ſmaller plants may be removed from the bed in the like manner, and they will ſucceed the others in order for the table.

A third ſowing ſhould be made the laſt week in March in a bed of light earth made fine, in a well-ſheltered place, open to the morning ſun. The ſoil ſhould be naturally moiſt; and for want of this, the bed ſhould be watered every third evening in dry weather. When the plants come up they ſhould be watered every other evening, if the weather proves dry; and in three weeks or a month's time the largeſt ſhould be taken out and planted in a well-prepared bed, like the others, at three inches aſunder, where they may ſtand for about three weeks before they are removed to their ſituation for blanching. About a week after this, the ſmaller plants from the ſame bed may be removed in the ſame manner.

A fourth ſowing ſhould be made the laſt week in April, or the firſt in May. The bed for the reception of the ſeed ought to be moiſt, and in the ſhade, but not under the drip of trees. And this is all that need be ſaid of this ſowing; for the management of the ſeed-bed plants afterwards is exactly the ſame as that of the third ſowing.

By theſe different ſowings a ſupply of Celery for the table may be had from the end of June until the April following, when the ſeaſon for Celery will be over. I proceed now to the next management of the plants, viz. Blanching, which renders them ſo valuable at our tables.

Method of blanching Celery.

The plants, at their proper diſtances from the different ſowings as above, are to be directly removed from the beds where they were growing at three inches aſunder, into the ground made ready for their blanching.

The ground for the firſt three crops of Celery ought to be naturally rich and moiſt; but the fourth crop ſhould have a drier ſituation, as the plants are deſigned to ſtand all the winter.

In either caſe let the ground be double dug, and the ſurface made level and ſmooth: Then, beginning at the outſide, let a trench be made nine inches deep, and ten inches broad, laying the mould, as it is dug up, on each ſide the trench. In this trench a row of Celery is to be ſet; and if the whole ground has not immediately before been double dug, the bottom of the trench ſhould be well dug a full ſpade's depth, and the mould made fine for the roots to ſtrike in. Thus having finiſhed one trench, let another, a yard diſtance from this, in the ſame manner be prepared, and after that another, and ſo on, until the whole ground is thus prepared for the reception of the Celery plants.

In a moiſt day, or ſome evening, take up your plants out of the beds, trim the fibres and tops, and plant them exactly in the middle of theſe trenches, in a row, ſeven inches from each other; ſpread the fibres, and cloſe the earth with care about the roots; and if no moiſture at the time happens, give them a moderate watering, and repeat this every other evening until they have taken root. As the plants advance in height, they muſt be moulded up by the earth thrown out of the trench; but this moulding up muſt be always done in dry weather, or it will rot your plants, or at leaſt cauſe them to canker, and become ſticky and ſpotted: In doing it, take care not to bury or throw any earth upon the hearts of the plants. When the plants have made ſuch conſiderable advances, as, by a repetition of moulding up, all the earth thrown out of the trenches is exhauſted, dig up a freſh trench between the rows for the mould to be uſed for the ſame purpoſe. Throw this earth upon a ridge along each ſpace, break the clods, and work it well with the ſpade to make it fine, and more ſuitable for moulding up the plants; and, as there ſhall be occaſion, continue to cheriſh them by drawing up this freſh earth, until they are finally blanched, and are fit for uſe.

One common method of blanching belongs to all the different crops, and by obſerving the proper intervals of raiſing the plants, and planting them out for the purpoſe, there will be a ſucceſſion of Celery from the end of June until the April following.

If the winter ſhould prove very ſevere, and the ſituation is not well defended, it will be neceſſary to cover the Celery with peaſe ſtraw, or ſome light covering, to keep out the froſt; but this muſt conſtantly be taken away as the weather becomes mild, or it will either rot your plants, or cauſe them to be cankered, ſpotted, and of little value.

It is but too often that we ſee ſpotted, cankered, and ſticky Celery; but that is chiefly owing to the plants being moulded up when they are not dry: This ſhould warn all raiſers of Celery to perform that buſineſs at a ſuitable time.

A very few of the fineſt and ſtrongeſt plants will be ſufficient to ſave for ſeed; for the quantity a ſingle plant will produce is amazing. If the ſummer ſhould prove very dry, it will help the plants if you water them twice a week in evenings. In Auguſt the ſeeds will be ripe, when nothing more is to be done than to cut them up with the ſtalks, and, after having let them lain until they are ſufficiently hardened in the ſun, to threſh them out, and put them up in bags for uſe.

Celeriac deſcribed.

4. Celeriac is another variety of this ſpecies, but by far leſs delicate than the former ſort. Its chief excellence conſiſts in the root, which will be very large, and as big as ſome Turneps. Hence the name Turnep-rooted Celery has been applied by ſome perſons to this plant.

Culture.

The ſeeds ſhould be ſown about the end of March, or beginning of April, on a light, moiſt ſoil. When the plants come up too cloſe, thin them; and when the remainder are of proper ſize to remove, plant them in trenches about two or three inches deep in a moiſt part of the garden; water them until they have taken root; and when the roots are grown as large as ſmall Turneps, draw the mould over them to the leaves for blanching. A repetition of this work will be unneceſſary; one moulding up for blanching will be ſufficient: This being done, they will require no more trouble, except keeping them clean from weeds until they are ready for uſe, which will be in about five weeks after.

All the ſorts of Parſley conſiſt only of one ſpecies, and thoſe of Celery of another; ſo that the fore-mentioned ſorts of Kitchen Garden plants compoſe only two diſtinct ſpecies; and,

Titles.

1. Parſley is titled, *Apium foliolis caulinis linearibus, involucellis minutis.* Caſpar Bauhine calls it, *Apium hortenſe, petroſelinum vulgò*; another ſort of it he terms, *Apium vel petroſelinum criſpum.* Dodonæus calls it, *Apium hortenſe.* It grows naturally in Sardinia.

2. Celery is titled, *Apium foliolis caulinis cuneiformibus umbellis ſeſſilibus.* Tournefort calls it, *Apium dulce, celeri Italorum.* It grows naturally in the moiſt parts of Europe.

Claſs and Order in the Linnæan Syſtem. The characters.

Apium is of the Claſs and Order *Pentandria Digynia*; and the characters are,

1. Calyx. The general umbel conſiſts of few rays, but the partial of many. The general involucrum conſiſts of one or many leaves, and the partial the ſame.

The proper perianthium is hardly diſcernible.

2. Corolla. The general flower is uniform, and each floret conſiſts of five roundiſh, inflexed, equal petals.

3. Stamina conſiſt of five ſimple filaments, with roundiſh antheræ.

4. Pistillum conſiſts of a germen ſituated below the flower, and two reflexed ſtyles, with obtuſe ſtigmas.

5. Pericarpium. There is none. The fruit is oval, ſtriated, and diviſible into two parts.

6. Semina. The ſeeds are two; their figure is oval, but they are ſtriated on one ſide, and plain on the other.

CHAP. VII.

ASPARAGUS.

WE have hardly a more wholeſome eſculent at our tables than the *Aſparagus*; it is univerſally admired, and the true culture of it is as much wiſhed for as perhaps that of any plant which belongs to the Kitchen Garden. In order, therefore, to ſet this in as clear a light as poſſible, I ſhall,

Firſt of all, give ſome general directions for gathering of the ſeeds.

2. The method of planting *Aſparagus* beds with roots from the ſeminary.

3. Of raiſing *Aſparagus* beds immediately from the ſeeds.

4. Of obtaining *Aſparagus* in autumn.

5. Of forcing *Aſparagus*, or raiſing *Aſparagus* on Hotbeds.

General directions for ſaving the ſeeds.

And firſt, with regard to ſaving of the ſeeds: The firſt thing to be done is to mark a ſufficient quantity of the earlieſt heads for the purpoſe; theſe heads ſhould be the cloſeſt, the roundeſt, and the largeſt, and ſuch as bid fair for being moſt tender, juicy, and ſweet. By each of theſe heads place a tall ſtick for a mark; and as they advance in height faſten them to the ſticks, to prevent their being broken down by the winds: Numbers of theſe heads will diſcover bad properties as they ariſe; ſome will grow flat, others ſpreading, and frequently no ſmall quantity of them will produce no ſeeds at all. The flat and the ſpreading heads muſt be diſregarded for ſeeds, the ſticks muſt be taken away, and the moſt compact and promiſing ſorts continued for the purpoſe; becauſe always ſeeds gathered from the fineſt ſhoots will not only produce fine ones again, but ſtill better plants will often ſhew themſelves among them; from which freſh ſeeds alſo may be gathered, and the ſpecies, by ſuch good management, improved without end.

Hence the enormous ſize of *Aſparagus* to be found in ſome gardens, and which has been taken for different ſpecies. It muſt be remembered, however, that it is a variety only, and that it was brought to that perfection, firſt of all, by this ſtrict care in ſaving the ſeeds; for there is but one real *Aſparagus*, and that indeed is the Common Wild *Aſparagus* which grows naturally in England, and ſeveral parts of Europe. The garden *Aſparagus* is a variety of this plant obtained by good culture; and the different degrees of excellency that it is poſſeſſed of in different gardens, owe their cauſe to different degrees of good management.

About Michaelmas the berries will be ripe; at which time the ſtalks muſt be cut off, and the berries ſtripped off, and put into a wooden veſſel, there to remain until, by ſweating, their ſkins break and become rotten; which will be in about a month from the time of their being firſt put in. When you find this effected, pour water upon them, and work and beat them about well with a worn-out birch beſom. Pour out the water, and put in freſh; work them with the beſom as before, and break them with your hands, that the huſks may be wholly ſeparated from the ſeeds: When this is done, the huſks naturally ſwim, and the ſeeds ſink. Let the ſcum be taken or poured off, freſh water added, and the ſeeds worked about as before; and let this be repeated until they are ſeparated and clean.

The next thing to be done is to dry the ſeeds; for which purpoſe, ſpread them upon a large mat, elevated above the ground in an airy place; turn and ſtir them about frequently, and in a little time they will be dry and fit to put up. A ſufficient quantity of ſmall bags ſhould be provided for their reception; and when you find the ſeeds perfectly dry, put them into theſe bags, and hang them up in the ſeed-room to be ready for uſe.

About the firſt or ſecond week in February the ſeeds ſhould be ſown. If they are deſigned to raiſe young plants for tranſplanting, let them be ſown thinly on a well-prepared rich bed, of an open expoſure in the ſeminary, and cover the ſeeds over with about a quarter of an inch of good mould; neat up your beds, and the firſt ſtep towards an *Aſparagus* bed is finiſhed.

The plants will readily come up; and as the weeds appear, they muſt be conſtantly drawn out; when the *Aſparagus* plants alſo come up too cloſe they muſt be thinned, and frequent waterings in dry weather muſt be given them: And this is all the trouble they will call for during the ſummer. In October, when the ſtalks decay, cut them off cloſe to the ground, and cover the bed with ſome rotten dung from an old Cucumber or Melon bed, about half an inch thick, to defend the buds from the ſevereſt froſts; and in the ſpring they will be proper plants with which to form an *Aſparagus* bed.

The ſize of this, or the number of the beds, ſhould be in proportion to the largeneſs of the family; and the ſeaſon for planting them is about the third week in March; though, if the ſoil be naturally dry and warm, it may be done a fortnight ſooner; if naturally wet and damp, it would be adviſeable to ſtay a week or ten days longer.

The method of planting Aſparagus beds with roots from the ſeminary.

2. A few days before you intend to make the beds, mark out a place for the purpoſe: Dig this two ſpades deep; and as you dig it, throw into the bottom ſpit a large quantity of rotten dung, to form a deep ſtratum (at leaſt of a foot) under the ſurface of the natural mould, which ought to be nine inches at leaſt above it.

When this is done, carefully take up the plants out of the ſeminary. The inſtrument for this purpoſe is a narrow cloſe-tined dung-fork; and as they are raiſed with this inſtrument, ſeparate them from each other, and lay their heads even, that they may be handy for planting.

This being done, you muſt, by the direction of a line, throw out a trench on the outſide of the bed half a ſpade deep. In this trench the roots are to be ſet in an upright poſition, at about twelve inches diſtance from each other; by placing them againſt the back of the trench, they will be better kept in their proper places; the fibres muſt be carefully ſpread, the fineſt mould muſt ſurround them, and their depth ſhould be ſuch, that the crown of each plant may be two inches below the ſurface of the earth when it is made level.

The firſt row being planted, draw your line for a ſecond row, and make a trench as before. If your *Aſparagus* is of the large ſort, and you pique yourſelf (as many do) on outdoing your neighbours in an exhibition of that nature, the trenches ſhould be a foot and an half from each other: If the plants are raiſed only from common gathered ſeeds, and you have no ſuch ambition, a foot will be a good diſtance for the rows. Having therefore planted four rows in this manner, a bed is completed; and if you proceed to another bed, leave a diſtance for an alley of two feet and an half, then proceed to the ſecond bed in the like manner, and after that to the others, until the whole is completed.

Having thus finiſhed your *Aſparagus* bed, nothing is to be done until the autumn, except keeping them clean from weeds: This work muſt be conſtantly repeated as they ariſe, and a dry day ſhould be choſen for the purpoſe, that they may more readily wither as they are hoed up.

In October, when you find the ſtalks decay, they ſhould be cut off with a knife a little above the ground; at which time the alleys ſhould be dug up, and ſuch a ſhare of the mould laid upon the beds, as will be ſufficient to cover them down half a ſpade's depth. In the winter they will cauſe no trouble; the ſpring and ſummer following weed them as before; and in October cut down the ſtalks, dig up the alleys, and with the mould raiſe the beds five inches higher than before. No attendance need be given them during the winter; and againſt ſpring, you ſhould provide yourſelf with a flat fork, called the *Aſparagus* fork, and, in the beginning of February, with this fork you ſhould turn over the mould as deep as poſſible, without danger of hurting the crowns of the roots. After this, rake your beds level, and neat them up; and, in a week or ten days after that, rake them again, and repeat this until the *Aſparagus* comes up.

This is the ſpring for the firſt cutting; and when the heads are four or five inches above the ſurface, the largeſt may be cut up for uſe, leaving the ſmaller ſhoots to run up, and their roots will ſhoot out ſtrong the year following.

A particular knife is uſed for cutting of theſe heads, called an *Aſparagus* knife: The blade is long, narrow, and toothed like a ſaw; and without ſuch a knife, it will be difficult to cut your *Aſparagus* as it ought to be. It ought to be cut three inches below the ſurface of the ground; and care muſt be taken not to wound the younger heads that are coming up near it: This would be a tedious affair with a common knife; but with this kind of knives the buſineſs is ſoon effected. At the time you gather the *Aſparagus*, and all ſummer, keep your bed clean from weeds; in October cut down the ſtalks on their decay, dig the alleys, and cover the beds with about three inches depth of good rotten dung from an old Melon or Cucumber bed; work ſome dung alſo into the alleys, when you dig them up: In the ſpring after your beds will be in perfection, and will afford you *Aſparagus* in plenty, which may be continued to be cut until the beginning of June: Then leave off cutting, and let all run up to ſtalk. In October cut them down, and dig the alleys; and in the ſpring let the beds be forked between the alleys as before: And this management muſt be repeated as the ſeaſons ſucceed, and is all the after-trouble theſe beds will annually call for.

Of raiſing Aſparagus beds immediately from the ſeeds.

3. Of raiſing *Aſparagus* beds immediately from the ſeeds.

The beds ſhould be prepared as for the roots, and lines ſhould be drawn at a foot, or a foot and a half aſunder, in the ſame manner as was directed for planting of the roots. The beginning of February is the time for the work; and before you ſow the ſeeds put them into water, and let them remain in it all night; in the morning you will find all the good ſeeds at the bottom, and the bad or huſky ſeeds will ſwim at the top; and by this trial you may be ſure of having good ſeeds for your purpoſe. At a foot diſtance, therefore, in theſe rows, plant two or three ſeeds near together, and cover them about a quarter of an inch deep; then neat up your beds, and your *Aſparagus* beds are formed. If all your ſeeds grow, you ſhould leave only one or two at the moſt ſtanding, taking out the weakeſt; and the after-management of theſe beds is exactly the ſame as was directed for thoſe of the former.

Method of obtaining Aſparagus in autumn.

4. Of obtaining *Aſparagus* in autumn.

In order to have late *Aſparagus*, ſome beds in a moiſt part of the garden ſhould be planted particularly for this purpoſe, in the manner as was before directed for the ſpring cutting; and the management varies only in this, that the heads muſt be entirely let alone as they ariſe in the ſpring, and the beds (except weeding) remain untouched until July, when you ſhould cut off all the ſtalks within an inch or two of the ground, fork the beds between the rows, and rake the ſurface even. If very dry weather happens, water them three times a-week, and in Auguſt freſh heads will ariſe vigorous and ſtrong, and there will be a ſucceſſion of them often until late in October.

Theſe plants muſt have the ſame management as the other beds in the ſpring, except cutting of the heads, which muſt be always left untouched until July, when the whole ſhould be cleared off, in order to cauſe the roots to ſhoot out afreſh as before.

5. *Aſparagus* on Hotbeds.

Aſparagus may be had at all times of the year by proper management; and through the whole courſe of the winter, by a ſucceſſion of hotbeds, it may be brought to great perfection.

Culture of Aſparagus on hotbeds.

In order, therefore, to raiſe *Aſparagus* on hotbeds, a ſufficient quantity of roots ſhould be ready for the purpoſe. Theſe roots ſhould be raiſed as has been directed, and ſhould be planted out in a rich, moiſt part of the ſeminary, where they ſhould ſtand at leaſt three years before they are ready for uſe; all which time no heads ſhould be gathered from them in the ſpring, but they ſhould run up wholly to ſtalk, be kept clean from weeds, dunged, and managed as has been before directed for ſeedling-plants: Theſe are proper roots for forcing, and no other. The common practice is erroneous: Gardeners either plant roots from the ſeminary of two years old, or old roots taken from an *Aſparagus* bed, which have been cut in the ſpring for ſome years; the heads from both which will be weak and inconſiderable, and much inferior to thoſe produced from maiden roots of three or four years old, in their full vigour.

The want of knowing this, is the occaſion of ſo much bad winter *Aſparagus*, which we meet with almoſt everywhere. Covent-Garden Market abounds with it; and although it is brought thither in ſuch great quantities for ſale, ſcarcely any of it is much thicker than good wheat-ſtraws, and hardly deſerves the name of *Aſparagus*.

Having a ſufficient quantity of proper roots in readineſs, let a large quantity of freſh horſe-dung from the ſtables be thrown on a heap; let the litter and the dung be well mixed; and let it lie eight or ten days to heat and ferment, and it will be in proper condition to form the hotbed: Then let a trench be dug about one foot deep; the ſize ſhould be according to the number of lights you have, or the quantity of *Aſparagus* you would raiſe. In this trench work the dung down evenly, preſs it well with your fork, and continue adding to it until it be at leaſt four feet thick. After this cover it with a ſtratum of fine, rich, moiſt mould about five inches deep: Lay the earth level, and raiſe ſmall ridges about two inches high above the ſurface; againſt theſe ſet your roots very cloſe, let the buds be upright and even, fill up the vacancies between the rows with the ſame kind of rich mould to the tops of the crowns, and, after that, add ſuch an additional quantity as may raiſe the mould two inches above the crowns of the roots; and round the outſides of the beds lay ſome clay to guard the ſide and end roots, and keep them from drying. It is a uſual cuſtom at this time to thruſt ſticks into the bed, by which to judge of the temperature. This is a very good way; for by drawing of theſe ſticks, and feeling them, you may judge of the heat of your bed; and when you find the heat abates, you may add a lining of freſh dung all round, and take away ſome of the old, and add freſh dung to the ſides; and by theſe means you will greatly increaſe the heat of the bed. Two or three ſticks will be ſufficient for this purpoſe, placed in different parts, obſerving to ſtation one of them near the middle of the bed; and their length ſhould be about two feet.

The bed being thus finiſhed, let it be covered in cold weather, and in the night-time, with mats, which will be ſufficient to keep out the froſt; and when the heads begin to appear above the ground, cover them down with two inches more of the ſame freſh earth; and when they ſhow themſelves at the top of that, add ſtill two inches more of the like kind of mould; by which time your beds will be ſix inches high above the crowns of the roots. Some never ſet on their frames until this time; which is a very good way, provided very hard froſts do not ſet in, as the plants will always be larger and better coloured. Whenever the frames are ſet on the beds, a ſufficient quantity of ſtrawbands muſt be made, and faſtened with ſharp ſticks round the beds, ſo as to be of equal height with the mould. On theſe bands ſet your frames; cover the glaſſes conſtantly in the night with mats, but always take them off in the day, that the ſun ſhining on the plants may cauſe them to have a better colour. Give them air, when the weather will permit, by pulling up the glaſſes; for the beſt colour to the *Aſparagus* is brought on this way.

A bed thus managed will produce you *Aſparagus* in about five weeks from the time of its firſt operating, and will afford you a ſucceſſion to be cut for about three weeks; ſo that if you chuſe to have *Aſparagus* all winter, a freſh bed ought to be made every three weeks: If ſo, a large quantity of roots ſhould be annually raiſed for the purpoſe. The produce from a bed of three lights, in the courſe of three weeks, may be expected to be about 900 heads; and if you intend only one bed, to cauſe variety at your table ſome time in the winter ſeaſon, you ſhould begin making your preparation for it about ſeven weeks before you would have the *Aſparagus* come in.

Aſparagus is a fine diuretic, and is univerſally admired, though it is ſaid to afford very little nouriſhment to the body.

Titles.

This ſpecies is titled, *Aſparagus caule herbaceo erecto, foliis ſetaceis, ſtipulis duabus interioribus, unâ exteriore.* Caſpar Bauhine mentions three ſorts of it as diſtinct ſpecies; one of which he calls, *Aſparagus ſativa*, by which he means the Common Garden *Aſparagus*; another he terms, *Aſparagus ſylveſtris, tenuiſſimo folio*; and a third, *Aſparagus maritimus, craſſiore folio.* Cammerarius calls it ſimply, *Aſparagus.* It grows naturally in moiſt places in England, and moſt parts of Europe.

CHAP. VIII.

ATRIPLEX, ORACH.

THE uſe of Orach for the table is the ſame with that of Spinach, and their culture in the garden is nearly alike.

The French are exceedingly fond of Orach, and cultivate it in great plenty as a culinary herb: With the Engliſh it does not meet with ſo general a welcome; though there are numbers who prefer it to Spinach, or any other eſculent whatſoever.

The ſorts cultivated are,

Varieties. The White Orach.
The Green Orach.
The Red or Purple Orach.
The Green Orach with a Purple Border.

Theſe are varieties only of one ſpecies, though their difference is permanent; and the ſeeds gathered from any one of the ſorts will be pretty ſure of producing the ſame ſort of plants again.

Culture. In order to have early Orach, ſow the ſeeds in the autumn, ſoon after they are ripe; and if you chuſe a ſucceſſion, let a freſh ſowing be made the end of February, and a third late in April. You may ſow them thinly in rows, as you do Spinach, keeping the ground clean from weeds between the rows, and, when the plants come up too cloſe, drawing out the weakeſt: And this is all the trouble they will require until they are cut for uſe.

If you ſow them on a large quarter or bed, you muſt hoe them as you do Carrots, leaving the plants about five inches aſunder: This is generally performed when they are very young; and the Gardener need not be informed that dry weather ought always to be made choice of for the work, in order to kill the weeds as they are hoed up. As the weeds ariſe, they muſt be deſtroyed by hoeing, as before; and this work muſt conſtantly be repeated, as often as there ſhall be occaſion, until the ground is cleared of the whole crop.

Theſe plants muſt be cut, like Spinach, when they are young and tender, at the ſame time obſerving to leave a ſufficient quantity of each ſort ſtanding for ſeeds. The ſeeds will be ripe in Auguſt, at which time the plants ſhould be plucked up, and laid in an airy place to dry; after which the ſeeds ſhould be threſhed out, and part of them immediately ſown again for the earlieſt ſucceeding crop; and the remainder ſhould be put up in bags, to be preſerved for the different ſowings in the ſpring.

Titles. The Garden Orach is titled, *Atriplex caule erecto herbaceo, foliis triangularibus.* Caſpar Bauhine mentions two ſorts of it; the one, *Atriplex hortenſis alba ſive pallidè virens*; another he terms, *Atriplex hortenſis rubra.* Dodonæus calls it, *Atriplex hortenſis.* It grows naturally in Tartary.

CHAP. IX.

BETA, BEET.

Species. THERE are two real ſpecies of the Beet; one of which grows wild near the ſea-ſhores in England and other parts, and is uſually called the Beet; the other ſpecies is cultivated in gardens for Kitchen uſe; and the principal varieties of it are,

Varieties. The Common Green Beet.
The Common White Beet.
The Red Beet.
The Chard Beet.

Theſe are only varieties of one ſpecies, and often run from one to the other; or, at leaſt, ſow the ſeeds of any one of the ſorts, and ſome plants of the other kinds will appear among them.

The Common Beets are eaten in the room of Spinach all winter and in ſpring, and are by many people preferred before it.

The ſort called the Chard-Beet is propagated chiefly for ſoups.

Culture. The Common Beets may be ſown any time in the autumn or ſpring; and when the plants come up, nothing more need be done than to hoe them as you do Turneps, leaving them at about ſix inches diſtance from each other. As weeds ariſe, hoe them down, and in a little time your plants will have covered the ground, and will not ſuffer weeds to grow among them. When they are fit for uſe, the outer leaves ſhould always be taken away firſt, and the inner leaves will ſoon grow larger, and ſpread themſelves for a ſucceſſion: And thus may your crop be continued for a long time; though it would be adviſeable, if the Beets are wanted chiefly for winter or ſpring uſe, not to ſow the ſeeds before May; for the chief delicacy of theſe plants conſiſts in their being tender and young.

If you appropriate a piece of ground for raiſing of Beets, and let them go up to ſeed, they will annually ſow themſelves, and will never fail to afford you a crop which will call for no trouble, except hoeing them where they come up too cloſe, and deſtroying the weeds as they ariſe among them.

Culture of Chard Beet. The Swiſs or Chard Beet, in its culture, muſt be better attended to. The ground ſhould be dug a ſpade and half deep, if the ſoil will allow of it; it ſhould be exceedingly well-wrought, all clods ſhould be broken, and the whole ſhould be laid as light and fine as poſſible, that the roots may have more liberty to ſtrike freely. About the middle of March is the beſt time for ſowing the ſeeds; and having made level the ſurface of your ground, and raked it fine, ſcatter the ſeeds thinly all over it, and rake them in with an even hand. After your plants are come up, if you find the weeds to ariſe plentifully among them, you muſt give them an hoeing, cutting down all the weeds, and ſuch plants as are nearer than ſix inches from each other. A ſecond crop of weeds will ſoon ſhew themſelves, when the hoeing muſt be repeated, and a third time if you find it neceſſary; and when the plants are grown large enough to ſhew which are the beſt and moſt promiſing, the others ſhould be taken away, and the whole crop ſhould conſiſt of good roots, all ſtanding at leaſt a foot diſtant from each other. Thus they will grow to the utmoſt perfection for uſe, not only for the leaves as pot-herbs, but alſo for their ſtalks, as they ariſe the ſpring following; for in them the chief excellency of theſe plants conſiſts: They are not only one of the greateſt improvers of ſoups when young, but they alſo make an excellent diſh when cut into ſlices and fried by themſelves. On account of theſe excellent properties, the culture of this ſort muſt be duly attended to, the ſeeds muſt be ſown every year, and a conſtant ſupply of theſe plants kept up.

BETA, The Turnep-rooted Beet.

Turnep-rooted Beet.

The Turnep-rooted Beet is a variety only of the former ſpecies; one common title belongs to them both, though the difference they poſſeſs is permanent from ſeeds; and the Gardener need not be too anxious about raiſing theſe plants from ſeeds near each other, to prevent their impregnating one another and producing mungrel ſorts. I never knew but that the ſeeds of the Red Turnep-rooted Beet always produced the ſame kind of plants again; tho' I muſt own, that among the White Chard Beet, when the ſeeds have been carefully gathered and ſown, a few Red Beets have appeared among them: But whether theſe were from the ſeeds of the White Beet, or ſome ſeeds of the Red Beet accidentally fallen into thoſe places, I will not take upon me to ſay. The Turnep-rooted Beet however varies in itſelf, and there are of it,

Varieties.

The Deep Purple, which is reckoned the beſt of all.
The Common Red.
The Green.
The Yellow.
The Green and Red.

Culture.

In order to have theſe plants in the greateſt perfection, the ſoil muſt be chiefly attended to; for as their excellence conſiſts in their roots, if the ſoil does not ſuit them, they will, like Turneps, be ſtringy and very bad. A dry hot ſoil, therefore, muſt by no means receive the ſeeds of theſe plants; for unleſs very wet weather happens, they will ſhoot into ſtalks the firſt year, and the roots will be good for nothing: And from hence may be inferred, that a ſoil of an oppoſite nature is entirely ſuitable to them. Fix therefore upon a rich, moiſt, light part of the garden for the reception of the Turnep-rooted ſeeds: Dig it well in March, ſow the ſeeds thinly, and after they come up hoe them as the former ſorts. Let this hoeing be repeated as the weeds ariſe, and let the plants be finally left at leaſt one foot aſunder. They will ſoon cover the ground, keep down the weeds, their roots will ſwell, and become large, tender, and fit for uſe. In November take them up, and lay them in ſand where no froſt or wet can come at them, and they will be good all winter.

Kitchen Gardeners who rent land at a great rate, and are obliged to make the moſt of every thing, ſow Beets with Onions, Carrots, &c. which is not a bad cuſtom, when the Onions and Carrots are deſigned to be drawn young; for while they are drawing, the Beets will be ſpreading; and by ſuch time as they are entirely taken away, the Beets will have nearly covered the ground, and commenced a regular crop.

The roots of all the ſorts of Beet may be tranſplanted in March, and ſet in a convenient place for ſeeds: But I rather chuſe to let a ſufficient quantity of every ſort remain undiſturbed in the places where they have grown, as the ſtalks will always be ſtronger, and the quantity of the ſeeds larger, and better in proportion.

Theſe plants, when heavy with ſeeds, are liable to be broken down by ſtrong winds; to prevent which, a *pro tempore* hedge ſhould be made againſt that ſide of the quarter which is leaſt defended. This will be attended with little trouble, as this hedge need only conſiſt of ſome ſticks or boughs, about nine feet long, thruſt tolerably cloſe together into the ground: And this is neceſſary only where there are many of theſe plants, and large quantities of ſeeds are raiſed for ſale. A few roots will afford ſeeds enough for a very extenſive family; and then the ſhorteſt way will be, to ſupport the ſtalks loaden with their ſeeds with ſtakes, to prevent their being broken down by the winds.

The ſeeds ripen in September; at which time the ſtalks muſt be cut up near the ground, and ſet againſt a wall, pales, or a hedge, to dry. When you find they are in proper order for threſhing out, let it be done; then clean them, and preſerve them in bags till wanted.

Titles.

The Garden Beet is titled, *Beta caule erecto*. Caſpar Bauhine mentions ſeven ſorts of it, which he calls, *Beta communis viridis: Beta rubra vulgaris: Beta rubra major: Beta rubra radice rapæ*; and the like. Its native place of growth is uncertain. The Engliſh ſort, which grows wild on our ſea-ſhores, and from which the Garden-ſort was ſuppoſed to proceed, is titled, *Beta caulibus decumbentibus*. Caſpar Bauhine calls this, *Beta ſylveſtris maritima*.

Claſs and Order in the Linnæan Syſtem. The characters.

Beta is of the Claſs and Order *Pentandria Digynia*; and the characters are,

1. CALYX is a permanent perianthum, compoſed of five oval, oblong, concave, obtuſe leaves.
2. COROLLA. There is none.
3. STAMINA are five ſubulated filaments, which are placed oppoſite to the leaves of the calyx, of the ſame length with them, and have roundiſh antheræ.
4. PISTILLUM conſiſts of a germen placed below the receptacle, and of two very ſhort, erect ſtyles, with ſimple ſtigmas.
5. PERICARPIUM is a deciduous capſule of one cell.
6. SEMEN. The ſeed is ſingle, kidney-ſhaped, compreſſed, and ſurrounded by the calyx.

CHAP. X.

BORAGO, BORAGE.

Culture of Borage.

BORAGE is propagated by ſowing of the ſeeds as ſoon as you can procure them; for if it be ſpring, ſummer, autumn, or winter, the plants will not be long before they come up, if the ſeed is good.

For the firſt ſeaſon, it would be proper to ſow them at intervals of about three weeks or a month, in order to continue the ſucceſſion of flowers during the whole ſeaſon; and after that you need not give yourſelf any trouble about propagating this plant, for it will come up in plenty, and at different times; inſomuch that you will find ſome ſeeding, others juſt going into flower, and others again only peeping out of the ground. Thus they will continue the ſucceſſion themſelves, and exhibit their bloom in one or other of the plants from ſpring until the end of autumn.

Properties of Borage.

Borage is an excellent potherb, and many are fond of eating it now as a raw ſallad. It is admirable in cool tankards, and the flowers are highly valued in Medicine. The root indeed ſeems to be of no uſe; but every other part of the plant is exceeding wholeſome and exhilarating.

Titles.

This Borage is titled, *Borago foliis omnibus alternis, calycibus patentibus.* Caſpar Bauhine calls it, *Bugloſſum latifolium. Borago*; and John Bauhine, *Borrago floribus cæruleis.* It grows naturally in England, and ſeveral other parts of Europe.

CHAP. XI.

BRASSICA OLERACEA, CABBAGE.

THE *Braſſica* is a very extenſive genus, and contains a large number of our moſt uſeful eſculents. The vaſt train of Cabbages, Savoys, Cauliflowers, Broccolies, &c. come under this head; The Turneps alſo belong to it; ſo that, in order to ſet this genus in as clear a light as poſſible, the ſeveral articles muſt be treated of diſtinctly.

I. CABBAGES.

There is only one real ſpecies of Cabbage, though ſuch numbers of ſorts are to be found in our gardens. The original ſpecies is the Common Sea-Cabbage, that grows naturally on Dover-Cliffs and ſeveral other ſea-cliffs in England. We boaſt the Cabbage to be a native of our own country; and it is from the Sea-Cabbage that all the varieties have been firſt from ſeeds obtained, and which are now daily improved by good culture and management. Cabbages are generally claſſed under two heads:

Species.

1. The Early Cabbages.
2. The Late Cabbages.

Of the Early Cabbages the principal ſorts are, The Early Yorkſhire Cabbage: The Batterſea: The Sugar-Loaf: The Early Muſk: The Early Ruſſia Cabbage.

Of Late Cabbages the principal ſorts are, The Common Late White Cabbage: The Late Flat Cabbage: The Late Muſk Cabbage: The Late Green Cabbage: The Long Cabbage: The Giant Cabbage: The Red Cabbage.

Culture of Early Cabbages.

1. Early Cabbages. In order to raiſe Early Cabbages, let a piece of ground in an open expoſure be prepared by good digging, &c. againſt the laſt week in July, or firſt week in Auguſt. Then having obtained the ſeeds of the different ſorts, lay them out in as many beds as you have ſorts of Cabbage-ſeeds; then rake the ſurface ſmooth and even, ſow the ſeeds thinly on their reſpective beds, and ſift over them half an inch of very fine mould. Place a number-ſtick to each bed, and enter them in your book, to prevent after-miſtakes reſpecting the ſorts; then neat up your beds, and the firſt ſtep towards raiſing Early Cabbages is done.

If rain ſhould ſoon fall, it would be happy for your plants; for they would then ſoon come up numerous and ſtrong; but for want of this, you muſt be ſure to give them a watering every other evening; and that will in ſome meaſure ſupply the defect they muſt ſuſtain through the loſs of ſuch favourable ſeaſons.

After the plants are come up, water them conſtantly in dry weather; thin them where they are too cloſe, for otherwiſe they will become what Gardeners call Long-ſhanked; keep them clean from weeds; and by the beginning of September they will be of proper ſize to tranſplant to their ſecond lodgings.

Againſt this time, therefore, let a ſpot of ground be prepared, of ſize in proportion to the number of plants you have to remove. Let the ground be well worked, the clods broken, the ſurface made level, and on this ſet your young plants by lines at four inches diſtance from each other. The firſt moiſt day in September muſt be choſen for the work; and for want of ſuch weather it ſhould be performed in evenings, when the number of plants is not very great, as thereby they will receive leſs check by their removal. But when plants are raiſed in vaſt quantities for ſale, you muſt take any weather as it happens; and whole days muſt be employed to get the buſineſs done.

From this bed they are to be drawn out all winter and the early part of the ſpring, as there ſhall be occaſion for them. But, in order to have the firſt crop of Early Cabbages for your own uſe, let a ſufficient piece of ground in the richeſt part of the Kitchen Garden be dug two ſpades depth. Then about the middle of October, on a mild moiſt day eſpecially, take up your plants, and having opened holes by lines at about two feet and an half aſunder, carefully ſet your Cabbage-plants in them; and if dry weather ſhould immediately follow, water them every other evening until they have taken root. The ſpring brings forth more weeds than flowers, and affords amazing toil to the Gardener as well as pleaſure; and as that advances, they will ariſe in plenty among your Cabbage-plants. When you find this, dig the ground between the rows, and with the hand clear off ſuch weeds as grow too near the ſtems of the plants; after that go over the whole quarter of Cabbage-plants, and with the hoe draw up the mould cloſe to the ſtems, raiſing it there ſome inches above the common level. In a few weeks the weeds will have ſwarmed again; but there will be no occaſion to dig them in as before, hoeing them down this ſecond time being ſufficient: Let them therefore be hoed down as often as there ſhall be occaſion, and at each hoeing let ſome freſh earth be drawn up to the ſtems of the plants as uſual. By the end of April, or early in May, your plants will be grown very large, and many of them will ſhew ſome tendency to cabbage; and in order to forward them, it is a common practice to tie the leaves together with bits of matting. This method will certainly blanch them, and you will have the appearance of Cabbage ſooner by a week or ten days; but there is not that delicate ſweetneſs in ſuch plants as is to be found from thoſe Early Cabbages whoſe boſoms have been expoſed to the fine influences of the dews, air, and rain.

In a gentleman's garden, not too large a quantity of theſe early ſorts ſhould be raiſed at a time, eſpecially of the Early Yorkſhire kind, which comes in firſt; for they will continue good but for a very little time. They will all come in nearly together, and will ſoon become hard, and crack, and go off all at once: So that when you find this, the beſt way would be either to cut them all off, for the ſtalks to ſhoot out afreſh; which they will certainly do, and afford you fine lateral Sprouts or Cabbages in the ſummer; or you may clear them all off, and prepare your ground for the reception of Celery, Endive, &c.

The Sugar Loaf Cabbage is the leaſt ſubject to crack and go off, of any of the Early ſorts; and though it is not the firſt kind in eating, yet on account of that property, a larger ſhare of this plant ſhould be raiſed than the others.

Kitchen Gardeners, in order to make the moſt of their land, generally plant their Cabbage-plants in rows among their Winter Spinach; thus during the winter the land ſupports two crops at the ſame time. This is a very good method; the Cabbage-plants will be very little impeded in their growth by the Spinach; and when that is taken away in the ſpring, the ground may be dug, and the earth drawn up to the ſtems of the plants, to ſtrengthen them as before directed.

2. Late Cabbages.

Culture of Late Cabbages.

The ſeeds of theſe ſhould be ſown in Auguſt, in the manner directed for the Early ſorts; and the plants, after they are of ſize to tranſplant, muſt be pricked out into a well prepared piece of ground, at four inches diſtance from each other. In this bed they may ſtand till February, when, having prepared a piece of rich ground for their final reception by double-digging, &c. the plants ſhould be ſet in this by lines at a yard diſtance from each other. If the land be rather poor, two feet and a half will be diſtance great enough for the Common ſorts; though if it be a rich well-dunged ſoil, the plants of the Giant ſort (if the ſeeds have been carefully ſowed) ſhould not be planted nearer than a yard and half from each other. This ſort ſeems to be loſt amongſt our preſent Gardeners; but it is a pity that it ſhould be ſo; for it is a very good Cabbage if eaten before it grows too old, and very profitable for large families. They are delicate eating in October and November; after that they grow hard, but are nevertheleſs thought very good eating by the common people, for whoſe uſe Nature ſeems chiefly to have deſigned them.

The ſize this Cabbage will ſometimes grow to is enormous. I took notice of one that my Gardener brought into the Kitchen, and had cleared of all its outward leaves. I had the curioſity to order it to be weighed. It weighed forty-two pounds when diveſted of thoſe large outward leaves; and it might rationally be ſuppoſed that, had they been continued to the plant, the whole Cabbage would have been no leſs than fifty-two pounds weight.

It is a common rule to ſow the ſeeds of the Late Cabbages in April; and after they come up, to prick them out, and afterwards plant them for good. But this is a very bad ſeaſon for raiſing theſe plants; for the Cabbages hardly ever arrive at their natural ſize; and very often, by the autumn following, when they ſhould be in eating, will only have the appearance of good ſtrong plants, will cabbage little or none in the winter, and early in the ſpring fly up to ſeed.

Winter Cabbages are in eating from the firſt part of the autumn to the end of winter; but thoſe ſorts which are more liable to be injured by bad weather, ſuch as the Late Muſk, &c. the Gardeners pull up in November, or early in December; and having laid the ground in ridges, they place the Cabbages cloſe to each other againſt the ſides of the ridges, burying the ſtalks in the ground; and this in ſome meaſure ſecures them againſt the inclemencies of our ſeaſons.

The Red Cabbage is uſed chiefly for pickling and ſtewing, and is hardly ever brought to perfection in ſize, unleſs the plants are raiſed in the autumn.

Of raiſing Cabbage-ſeeds.

The raiſing of more than one ſort of Cabbage-ſeed ſhould never be attempted, unleſs you have garden-room enough to keep the ſorts at a conſiderable diſtance; for being ſeminal varieties only of one ſpecies, the farina of one ſort will fecundate the ſeeds of the other, by being conveyed by the wind or inſects, if the plants are not at a diſtance from each other large enough to prevent it: So that if you were to plant three quarters (for inſtance) with three different ſorts of Cabbages for ſeeds, the ſeeds from any one of theſe quarters will produce all the three ſorts of Cabbages that were planted near each other. Thus, for inſtance, I planted ſome Early Yorkſhire Cabbages for ſeeds, ſome Red Cabbages, and ſome Savoys near each other. I carefully gathered the ſeeds of the reſpective ſorts, kept them ſeparate, and ſowed them in different places. The ſeeds from the Early Yorkſhire brought forth for the greateſt part the Early Yorkſhire again; but there were among them ſome Red Cabbages, others of a pale red, ſome with a reddiſh tinge, and many Savoys. The Red Cabbages alſo brought ſeveral White ones, and a very large ſhare that was only tinged with red, and of imperfect colours. The Savoys alſo had the three ſorts growing among them. So that in order to keep up and improve the true ſorts, it will be abſolutely neceſſary only to raiſe one ſort in a place, to prevent their becoming mongrels, by incorporating in that manner with each other.

Having fixed therefore upon one or more ſorts, according as your ground lies at a diſtance to keep them ſeparate, mark the moſt compact, the earlieſt, and the ſhorteſt-ſhanked Cabbages on their firſt coming in, in the ſummer; and when they are grown to a moderate ſize, cut them off for uſe, leaving the ſtalks to ſhoot out afreſh. The ſtalks will ſoon abound with a quantity of fine ſprouts, and it is from theſe ſprouts that the Cabbage-ſeed is to be raiſed. In order, therefore, to proceed regularly in the proceſs, againſt the time the ſprouts will be of ſize to be ſlipt off for planting, let a piece of ground for each ſort be well prepared by digging, breaking of the clods, &c. in a rich part of the garden; and if it be rather moiſt, it will be ſo much the better: Then on a moiſt or rainy day ſlip the ſprouts off from the ſtalks, and plant them on this new-prepared ground at one foot diſtance from each other: If moiſt weather ſhould be wanting, the work muſt be performed in evenings or on a cloudy day; and the plants muſt be conſtantly watered until they have taken root. When the ſtalks advance in height, ſome people, who are fond of neatneſs, thruſt into the ground, at proper diſtances, by the ſide of each row, ſtrong ſticks, in order to tie rods length-ways for the ſeeds to lean againſt as they ripen, and prevent their being broken down by the winds; and ſome willingly uſe ſtill more trouble, and tie every ſtalk with a bit of matting to the horizontal ſtick for its ſupport. This is an admirable way; the appearance of neatneſs and induſtry is kept up, the ſeeds will ripen freely, and a great part of them will be ſaved, which would have otherwiſe been ſcattered and loſt in the ground, from broken ſtalks, winds, &c. But where large quantities of theſe ſeeds are raiſed, and the Gardener has much other buſineſs upon his hands, it is not expected that ſuch punctilios can be obſerved.

It is an obſervation, that the ſeeds produced from the extremities of the ſhoots will produce plants that will, for the moſt part, run into ſeed, and never cabbage; let the ends, therefore, of the reſpective ſhoots be always clipt off when the pods are full grown, and this will ſtrengthen the remaining ſeeds, and make them better.

By ſuch time as you find the pods to turn brown, ſwarms of birds will haunt you from every quarter; and unleſs conſtant watch is kept, they will have the greateſt ſhare of them; for they are very fond of theſe ſeeds. To fright them away, ſome ſet up ſcare-crows, ſome cover the ſeeds with nets, and others ſet twigs of bird-lime. None of theſe methods is effectual for ſecuring your ſeeds; for as to the nets, they will become ſo familiar to them, that they will get under them, and creep in at every hole that is open; ſcare-crows they will not fear; and though bird-lime twigs may catch a few, yet other freſh ones will pour in in ſuch plenty, that you will find your ſeeds badly protected by theſe ſtratagems. The only way, therefore, to preſerve your ſeeds is to procure a boy to attend them, who muſt be on the ſpot as ſoon as it is light in the morning, until late in the evening; he muſt be provided with a good clapper, and a gun to ſhoot as he ſees occaſion; and this will be the only way to ſecure your ſeeds from theſe devourers.

When you find your ſeeds are ripe, you muſt cut the ſtalks up near the bottom, and lay them upon mats to dry, if the quantity is not too large; but when that is very great, the beſt way will be to tie them in ſmall bundles, and ſet them in ſhocks, as they do Wheat. When you find they are perfectly dry, which will be in a few days, threſh them out; then expoſe the ſeeds, ſpreading them thinly in an airy, dry place, for a day or two longer; and after that put them up in bags for uſe.

This method of raiſing the ſeeds requires to be ſtrictly obſerved only with regard to the Early kinds of Cabbages; and by the due obſervation of it the ſorts will be improved, and brought to greater perfection. With regard to the other ſorts, it may be ſufficient to cut off the Cabbages in the winter; and either let the ſtalks remain to produce the ſeeds from the ſprouts, or remove them to a commodious ſpot, to be planted by themſelves, to grow to ſeed. It is from theſe ſprouts that the beſt ſeeds are produced; and though the more wiſe way is planting them out, yet, in theſe large Late ſorts, good ſeeds may be collected from ſprouts growing on the old ſtalks.

The worſt way of raiſing Cabbage-ſeeds is by half-burying of the Cabbages with their ſtalks the end of November; for Cabbages thus buried will for the moſt part rot, if a wet winter ſhould happen; or if they do not, the ſhoots will not be near ſo ſtrong, nor the ſeeds ſo plump and good, as thoſe produced from the ſprouts in the manner before directed. Beſides, as it is an allowed maxim, That the ſeeds of the extremities of the branches will produce plants that will be more likely to run to ſtalk, and be of leſs value than the ſeeds on the other parts of the plant, we may conclude, that the weak branches on the uppermoſt part of the ſtalk will, in proportion, have all their ſeeds with this bad tendency. Hence, when the whole cabbages are planted, the branches that ſpring immediately from the top are the principal; and conſequently a principal ſhare of the ſeed, though not really bad of itſelf, has nevertheleſs a proportional tendency to a very bad property, by growing from the extremity of the plant. If, therefore, the Cabbage is cut off, the extremity and weak part of the ſtalk is taken away with it, and then none but thoſe fine, ſtrong, lateral ſhoots can be produced, from which alone (having taken off their ends, as the pods ripen) good ſeeds can be depended upon. Further, with regard to the time of burying the Cabbages for ſeeds, ſays Miller, about the end of November pull up your Cabbages deſigned for ſeeds, and plant them down to the *middle*, &c. Surely, by this direction, he muſt only mean the Late Cabbages, for the Early ſorts will be broken and gone long before that time. In ſhort, the whole practice is abſurd; and the beſt manner of raiſing Cabbages, and improving the ſorts, is as has been above directed.

Culture of Turnep Cabbages.

2. Of Turnep Cabbages. The Turnep Cabbage is a variety only of our Common Cabbage, or Colewort, to which latter it ſeems to have a greater affinity, and is uſually raiſed more for curioſity than uſe.

The ſeeds ſhould be ſown the beginning of Auguſt; and on the firſt moiſt day that happens after the plants have got four leaves, they ſhould be pricked out in a bed, about three inches aſunder. In October or November they ſhould be planted out where they are to remain, at about two feet diſtance from each other. In the ſpring, when the weeds ariſe, they ſhould be dug in, and the earth drawn with the hoe round the ſtalks, but not ſo high as to cover the part that forms the Turnep. As the ſpring advances, the ſtalks will ſwell above the ſurface of the ground; and in a little time the appearance of a very large Turnep will be formed, having cabbage-leaves at the top. They will continue to encreaſe the greateſt part of the ſummer, during which time they muſt be kept conſtantly clean from weeds and alſo watered, if very dry weather ſhould happen, to prevent their being mildewed; a diſorder which often ſeizes theſe plants in dry weather, ſtops them in their growth, and cauſes them to be more ſticky, woody, and of leſs value when they come to be cut for uſe.

Various manners in which theſe cabbages are eaten.

The Turneps and the Cabbages are in eating all winter; tho' there are few perſons, as I can learn, who are fond of them. They are ſometimes uſed in ſoups, and there are various ways of dreſſing them; but in moſt of them that I have experienced, they fall ſhort in goodneſs of our worſt of eſculents. Some perſons ſcoop them when full boiled, butter the pulp, and add other ingredients in the ſecrets of cookery, which they again put into the ſhell, and ſerve to the table as a ſide-diſh: Others half boil them, then cut them into ſlices, and fry them with butter; in this manner they are a pretty ornament to the corner of a table; and I have known thoſe who pretended to be very fond of them that way. Other methods for the cooking of theſe plants are in practice; but, in my opinion, in all of them they are but very indifferent food, in compariſon of our Common Turneps; and when they are ſimply boiled and buttered, with an intent to be eaten like them, they are intolerable: So that the greateſt uſe of theſe plants is to gratify curioſity, and to ſhew the various ways in which Nature ſports in the vegetable kingdom; and as ſuch, they might perhaps be deemed more proper for the Phyſick or Pleaſure-Garden than for this place. But the reaſon why they claim a place in the Kitchen Garden is, ſome people are fond of them, particularly in ſoups; and their tops are good greens, and are in eating from the beginning of winter to the latter end of the ſpring; on which account alone theſe plants are by many thought worth cultivating for kitchen uſe.

Turnep Cabbages recommended for feeding of ſheep.

Of late, Turnep-Cabbages have been recommended to be raiſed in vaſt quantities for the feeding of ſheep. For this purpoſe they ſeem to be admirably deſigned, for they will grow to be very large and firm, and probably muſt be hearty food for ſuch animals; and as they will endure our ſevereſt winters without being injured by ſuch weather as often deſtroys whole fields of Turneps, there will be a certainty of having them in perfection in the ſpring. On all theſe accounts they may, on ſome ſoils, be more profitable to farmers for feeding of ſheep than the Common Turnep.

How to ſave their ſeeds.

In order to ſave the ſeeds of the Turnep Cabbage, a few muſt be marked for the purpoſe, whoſe Turneps are the largeſt, the roundeſt, and have no viſible ſtalks to elevate them from the ground; all others muſt be cleared away from them; and theſe muſt be permitted to run up to ſeed without cutting off the tops or Cabbages. As the pods begin to ripen, nip off the ends of the ſhoots, and the beſt ſeeds only will be left for your purpoſe.

After all, the beſt ſeeds of this ſort are procured from the ſeedſmen, who have them annually from abroad. From ſuch new ſeeds the true Turnep Cabbages may be expected; but from thoſe of our raiſing, if preſerved even with the utmoſt care, the greateſt part of the Turneps will be oblong, high up the ſtalk, and many of the ſtalks will not turnep at all: So that as the expence of the purchaſe of theſe ſeeds is but trifling, the beſt way will be always to have them from a diſtance, and the wiſhed-for crop will then more probably follow.

Of SAVOYS.

The Savoy is a variety of the Cabbage, and admits of ſeveral varieties; ſuch as,

Varieties of Savoys.

The Common Savoy.
The Large Green Savoy.
The Brown Savoy.
The Dwarf Savoy.

All theſe cabbage, and are in eating from the going off of the Early Cabbages until the end of the winter; and are by many people preferred before Cabbages, or any other winter-greens whatſoever.

Of late years, they are chiefly ſubſtituted in the room of the Late Cabbages, unleſs where there are large families conſiſting of many ſervants and working people; for amongſt ſuch the different ſorts of Large Cabbages ſhould be kept up, becauſe, being larger and cloſer than Savoys, they are moſt profitable, and will go the fartheſt.

Culture of Savoys.

Savoys ſhould be raiſed at two different times of the year. The firſt ſowing ſhould be in Auguſt. The plants, when they are two or three inches high, ſhould be pricked out, at three inches aſunder, on ſome well-prepared bed; and in October, or in ſome part of the winter, ſhould be removed to the places where they are deſigned to ſtand. The diſtance the larger ſorts of Savoys ſhould be allowed, ought to be two feet; but the Dwarf ſorts need not be planted farther than a foot and an half aſunder. As weeds ariſe in the ſpring, they muſt be dug in, or hoed down, and the earth muſt be drawn up to the ſtalks, in the ſame manner as was directed for the Cabbages. In the ſummer theſe plants will cabbage; and when your Early Cabbages are over, you may cut them if you pleaſe. But as it is a general notion, that theſe plants are not good before they are froſt-bitten, many defer uſing them until late in the autumn. However, I muſt aſſure them, that they need not too ſtrictly adhere to this rule, for they are in fine eating all harveſt-time, September and October, before any froſts come on.

About the end of March ſome more ſeeds of Savoys ſhould be ſown. Theſe ſhould be pricked out like the others, when they are of proper ſize; and from that bed, on ſome moiſt day, they muſt be removed to the places where they are to remain. If no moiſt day ſhould happen at that ſeaſon, the work ſhould be done in evenings; and the plants ſhould be conſtantly watered until they have taken root. As weeds ariſe they muſt be hoed down, and the earth drawn up to the ſtalks of the plants to ſtrengthen them. The ſituation theſe plants require ſhould be free and open, for in cloſe places they are very liable to be deſtroyed by caterpillars. Theſe plants will come into eating in October, and will continue good all winter.

How to ſave their ſeeds.

In order to ſave the ſeeds of Savoys, nothing more need be done than to mark a ſufficient number of good plants for the purpoſe. After the Cabbages are cut, the whole quarter will afford freſh ſprouts, which will be fine greens in the ſpring: Theſe you may cut as you want them; but be ſure not to meddle with thoſe that are marked for ſeeds; and, before they come into flower, pull up the others, leaving them only in poſſeſſion of the quarter. Water them now and then in evenings, if very dry weather ſhould happen; and when the pods begin to turn brown, nip off the ends of the reſpective branches: After that, nothing more need be done than to protect them from birds, and when the ſeed is ripe to cut it up, ſpread it a few days on mats to dry, then to threſh it out, and put it up in bags for uſe.

Of BORECOLE.

The Borecole is a Cabbage in another form, and alſo conſiſts of many varieties; but the two principal ones with us are,

Varieties of Borecole.

The Green Curled Borecole.
The Red Curled Borecole.

Culture.

The leaves of both theſe ſorts are remarkably fringed and curled, and beautifully adorn the ſtalks from the top to the bottom; and as they bid defiance to all weather, in winter, when every thing elſe ſeems to be paſt and gone, they appear in full health and vigour, and cauſe a ſtriking and enlivening appearance in that dreary ſeaſon. They are raiſed by ſowing the ſeeds, in March, on any bed of common mould made fine: The ſeeds ſhould not be ſown too thick; and nothing more need be done than to rake them in. The plants will readily come up; and when they have got five or ſix leaves, they ſhould be pricked out into another bed, at three or four inches diſtance from each other. Here they may ſtand about a month or ſix weeks, and then, on a moiſt day, ſhould be removed to the places where they are deſigned to remain.

The plants ſhould be taken up with care, and holes with a ſpade ſhould be regularly opened for the roots, and their growth will be leſs impeded. They muſt be planted in rows, two feet from each other; and if dry weather ſhould happen at the time of removal, they muſt be well watered; which watering muſt alſo be repeated until they have taken root: Afterwards they will require no other trouble than hoeing of the weeds between the rows, as they ariſe.

It is the froſt chiefly that prepares theſe ſorts for the table; for, before that happens, they are tough and bitter, and hardly fit to be uſed; ſo that the harder the winter is, in the greater perfection will your Borecoles be. In general, however, they begin to be very good in December; and from that time they will not only be in eating, but will get better and better until the end of March, or beginning of April, by which time they will be advancing apace for ſeeds.

Directions for ſaving the ſeeds.

In ſaving the ſeeds of the Borecole, nothing more need be done than to mark the largeſt, and thoſe whoſe leaves are beſt curled and fringed for the purpoſe. Theſe muſt be untouched by the knife, and after they are grown to ſeeds muſt be protected from the birds; and when they are fully ripe, be cut up and dried, threſhed out, and put up in bags for uſe.

Of COLEWORTS.

Culture.

Coleworts are chiefly uſed for the feeding of cattle in the ſpring; but they afford excellent greens for the table, reſiſt all cold, and, like the preceding Borecoles, are the better for being ſeverely pinched by the froſts. The ſeeds of Coleworts muſt be ſown in March, in a bed of common garden mould, and raked in: From hence, when they have got about ſix or eight leaves, they ſhould, on a moiſt day, be removed to the places where they are deſigned to remain. The diſtance allowed ſhould be two feet and an half from each other. The weeds muſt be hoed down all ſummer, and the earth muſt be drawn up to the ſtalks as they advance in height; and this is all the trouble they will require. They will be fit for the table by Chriſtmas, and will be better and better to the end of the winter.

Few people are very nice about ſaving the ſeeds of the Coleworts; though, if the largeſt and fineſt plants are marked for the purpoſe, there will be a greater probability of having good plants in return, and improving the ſorts.

Directions for raiſing Coleworts for cattle.

In order to raiſe a crop of Coleworts for Cattle, which is now found to be of much more value to the huſbandman than a crop of Turneps, let the ground be well ploughed, and early in June let the ſeeds be ſown with an even hand, and lightly harrowed in. Moiſt weather ſhould be choſen for the purpoſe; and if this happens, the plants will not only come up ſooner, but there will be leſs danger of their being deſtroyed by the fly, which often takes off whole fields of young Coleworts, in the ſame manner as they do Turneps. When the plants are about two or three inches high, they ſhould be hoed as you do Turneps, but ſhould be left rather cloſer together. At this time the weeds ſhould be carefully deſtroyed; and if that work be performed in dry weather, it will be more effectually done. If, after this, weeds in plenty come up, the ground muſt have a ſecond hoeing to deſtroy them; and after that, no more need be done, except keeping them well fenced until they are to be eaten by the cattle in the ſpring. In order to this, the beſt and moſt profitable way will be to draw them, and lay them before the cattle, and not turn the cattle among them, as is generally done; for they will trample, crop, and deſtroy, without making clear work, the whole produce in a little time: And thus the owner will not make the beſt of his crop.

But this is to be underſtood when the fields are not too large, and ſmall crops of Coleworts are only raiſed for the uſe of new-milched cattle in the ſpring. In large fields, where the Coleworts are too numerous to be drawn by the hand, and a great quantity of cattle is to be fed, the farmer hardly need be told to let them have a ſmall quarter at a time, keeping the other fenced from them, until they are well eaten up, by hurdles.

One gallon of Colewort ſeeds is reckoned a proper quantity to ſow an acre of land, in Leiceſterſhire.

Of SCOTCH COLE, and other Sorts of BORECOLE, and SPRING GREENS.

Culture of Scotch Cole, &c.

The Scotch Cole, if poſſible, is hardier than any of the forementioned ſorts, and is in fine eating in the ſpring after an hard winter. The propagation is exactly the ſame as the preceding Borecoles, and need not be here repeated: In the ſame manner, alſo, all the other hardy varieties for winter and ſpring uſe may be raiſed. Of theſe there is an amazing quantity; and the varieties may be tolerably continued, if care is taken to keep the ſorts for ſeeds at a great diſtance from each other. The Variegated kinds now ſeem to be almoſt loſt among us; which is a great pity, as they are ſuch great beauties in winter. At that ſeaſon they diſplay ſuch variety of colours ſo lively and ſo agreeably diſpoſed, as to outvie in appearance many of our ſummer flowers. On theſe accounts it was that our anceſtors were ſo religiouſly ſtrict in ſaving theſe ſeeds, and preſerving the ſorts in improved beauty; and on thoſe accounts it ſeems to be a great ſhame to us, that ſuch admirable plants to behold (though of no better eating than the common ſorts) ſhould be ſo ſadly neglected.

There are alſo ſeveral Shrubby kinds of theſe plants, which will ariſe with woody, branching ſtalks to the height of four or five feet, and will grow, in ſome ſituations, eight or ten years.

Culture of the Shrubby kinds of Variegated Cabbages;

Theſe may be raiſed by ſeeds in the manner of the other ſorts; or the ſlips, taken off in the ſpring or ſummer, will grow, if they are watered. Many of theſe woody ſorts are finely variegated; ſo that the beſt way to continue the ſorts in their beauty is to plant the ſlips, and ſhade them until they have taken root; and plants raiſed from ſlips will be more woody, and laſt longer, than thoſe raiſed from ſeeds, though they will not be ſo profitable for family uſe.

After all, Cabbage-plants are ſaid by many to make better Spring Greens than any of the ſorts before-mentioned. The practice ſeems to become general about London; and with theſe the markets are ſupplied in the ſpring.

and of other Spring Greens.

Sow the ſeeds therefore of the Early ſorts of Cabbages, but particularly the Sugar-loaf, about the end of July. After the plants come up, you need not be at any trouble in tranſplanting them, but only thin them where they are too cloſe, keep them clean from weeds, and they will grow vigorous and ſtrong by winter, and will be in eating from December until the Early Cabbages come in. Thus much for winter greens: Proceed we next to another variety of the Cabbage, called the Cauliflower.

Of CAULIFLOWERS.

The Cauliflower is no other than a variety of the Common Cabbage; one common title belongs to them both; and though it is a plant of ſo much ſuperior delicacy and flavour, and divides and branches in ſo different a manner, yet this alteration is no other than the effect of culture, which was firſt of all accidentally obtained by ſeeds, and which has been continued and improved in our gardens ever ſince. Cyprus boaſts the honour of having the Cauliflower firſt raiſed there: And though other nations lay claim to that improvement, yet they ſupport their pretenſions but very badly. In ſhort, we have great reaſon to believe, that the different countries of Europe were firſt of all ſupplied with the ſeeds of the Cauliflower from the iſland of Cyprus, where it was firſt accidentally obtained, and where it is now kept up in great perfection.

Cauliflowers firſt raiſed in Cyprus.

Indeed, with reſpect to the preſent perfection of the Cauliflower, there is no nation of the world that exhibits them in ſo high a degree as the Engliſh. It is from the induſtry of our Gardeners that we have them ſo early, large, fine-flavoured and fair, ſurpaſſing, on the whole, what is to be found in other countries. This has been coming-on about ſeventy years; for before that time, I have been informed that Cauliflowers were too ſcarce to become marketable plants, and the few that were then raiſed by the more curious Gardeners were very inconſiderable, and not to be named with the ſhow of Cauliflowers our Kitchen Gardens now exhibit. And yet trifling as they were then, they ſeem to have gained great improvement from what they were thirty years before; for about a century ago, the Cauliflower was hardly known, at leaſt not in ſuch a manner as to claim a right to the name it now bears. So that we may juſtly conclude that the firſt Cauliflowers, which were accidental from the ſeeds of ſome of the Cabbages, had only a ſmall tendency to branch and flower a little; which being obſerved by the natives of Cyprus, and finding them of ſuperior delicacy, they ſaved the ſeeds, and continued to ſave thoſe of the beſt ſorts, until they were improved by little and little, and from time to time, and ſo have been continued by different gardeners in different countries, until they have been brought to that amazing perfection we every year find them.

From hence it may be inferred, that the perfection of Cauliflowers conſiſts chiefly in having good ſeeds: And thoſe I call good ſeeds, that are ripened from the beſt and the earlieſt plants; that is, ſuch as are large, early, perfectly white, hard, and compact. From ſuch heads as theſe the Cauliflower-ſeed ought always to be gathered; but the yellow frothy edged ſorts ought conſtantly to be cleared away, and never ſuffered to join their ſeeds with the others, let their flowers be ever ſo large or early.

Culture of Cauliflowers.

Having therefore obtained a quantity of good ſeeds, the firſt thing to be conſidered is the time of ſowing them; for Gardeners are very ſtrict about this, a few days difference making a material alteration in the crop. Some contend for the 20th of Auguſt to be the day when the Early Cauliflower-ſeed ſhould be ſown; others, three or four days after; and all agree that it ought not to be after the 27th of that month, if you would chooſe to have them as early as your neighbours. Any time, therefore, between the 20th and 27th of Auguſt let your ſeeds be ſown. Your old Cucumber or Melon-beds come now in uſe, and are, of all others, the moſt proper for the reception of the ſeeds. Level the ſurface of one or other of theſe beds for your ſeeds with an even hand, and ſift over them a quarter of an inch of very fine mould, hoop the beds, and cover them with mats in the heat of the day. Frequently water your ſeeds by ſprinkling, to prevent the earth being diſturbed, and in about a week's time your plants will come up. Continue to cover your beds, if the weather proves hot, in the heat of the day; alſo to cover them in evenings, if you find the nights are likely to prove ſharp; but in all mild and cloudy weather, let the plants be wholly nouriſhed by every cheriſhing influence that ſuch genial air can produce. Thin them where they come up too cloſe; and with this management let them be treated about three weeks, by which time they will be of proper ſize to remove to their next lodgings. This ſhould be on an old Melon-bed, or, for want of this, on a bed made of old rotten dung: In either caſe, they muſt be covered over with five or ſix inches depth of good mould; and on this your plants muſt be pricked, at two inches and an half diſtance from each other. A mild moiſt day, if poſſible, ſhould be choſen for the purpoſe; if not, the work ſhould be performed in ſome evening. The plants muſt be taken up with care, and the earth with equal care placed about their roots in their new ſituation. A gentle watering muſt then be afforded them, and they muſt be conſtantly ſhaded from the ſun until they have taken root, but otherwiſe they muſt have as much free air as poſſible. During their ſtay in this bed, they will require very little water; a ſmall quantity afforded them once in three days will be ſufficient, if the ſeaſon proves dry; and if much rain happens, they muſt be protected from it, a redundancy of moiſture being often deſtructive to theſe plants. Their ſtay in this bed ſhould be about a month, by which time October will have nearly finiſhed his courſe; then will be the time to remove them to their winter lodgings; though, if the ſeeds were ſown late in the ſeaſon, about the 27th of Auguſt, they will not be in right condition for removal before the firſt week in November.

The place they muſt be removed to ſhou'd be naturally well ſheltered; and for want of this, reed hedges muſt be made, to render their ſituation as warm as poſſible. The ground muſt be rich, and well worked; it muſt be dug two ſpades deep, and ſome good rotten dung worked into the bottom of each trench; then the beds ſhould be laid out about three quarters of a yard broad, and ſhould be upon a level, or raiſed higher, in proportion to the moiſtneſs of the ſoil: This being effected, it will be in proper order for the reception of the plants. Theſe are to be ſet in rows the whole length of the beds, and the diſtance they ſhould be from each other, ſhould be according to what you intend for the intermediate ſpaces. It is a common cuſtom to plant Cucumbers between the rows of Cauliflowers. When this is to be done, the diſtance of the Cauliflower rows ought to be at leaſt ſeven or eight feet; but when you intend the Cauliflowers ſhall occupy the whole ground, a yard and quarter will be a ſufficient diſtance for the rows. In either caſe, remove your Cauliflowers with care from the former bed, and open the holes, by a line, at about three quarters of a yard from each other: And as theſe plants are deſigned to be covered with the largeſt bell or hand-glaſſes, two more holes may be made, at about ſix inches from each other, ſo that the three plants may form an equilateral triangle. And thus three plants may be protected under one glaſs, if the glaſſes are large; but if they are rather ſmall, two plants only ſhould be for each glaſs, placed at four inches aſunder in the line. The ſuperfluous plants, after your ground is ſtocked, may be ſet under a warm wall in a well-ſheltered place, to take their chance for the winter; and the glaſſes with three plants under them will be able to ſupply the places of ſuch as may fail thro' the inclemencies of the winter. Having ſet your plants, give them a gentle watering, and place over them the glaſſes; keep theſe cloſe down until the plants have taken root, which you will find will be in about a week or ten days; and after that raiſe the edges of the glaſſes with forked ſticks or brick-bats towards the ſouth to the height of about three feet. This is deſigned to give the plants air; and if, from the firſt planting, ſome gentle warm ſhowers ſhould fall, let the glaſſes be wholly taken off, that the plants may receive their benign influence, and then place them on again. During the courſe of the winter, always in mild pleaſant weather, let the glaſſes be wholly taken off in the day-time, and the plants covered only with them in nights. In froſty weather let the glaſſes be preſſed cloſe down, and kept ſo during the whole froſt, except raiſing the glaſſes towards the ſouth a little in the middle of the day to give the plants air: And this muſt be very ſeldom repeated; for if the weather is very bad, the plants ſhould be wholly covered both night and day. Thus muſt your eye attend theſe plants until the end of February, or the beginning of March; and if you have been punctual in giving them air as the weather will permit, and protecting them from froſts and bad weather, you will find them healthy and in good condition at the time they will call for their next degree of management. In the firſt week of March, if the weather will permit, let the weakeſt plants be taken from under the glaſſes, and a ſhare uſed to make good thoſe which may have failed under the warm wall, while the others ſhould be planted out at a yard diſtance from each other in beds by themſelves. The ground ſhould be rich, light, double dug, and a good quantity of rotten dung ſhould be laid at the bottom of each trench. The plants ſhould be ſet with care; a ball of earth ſhould be preſerved to each root; holes ſhould be opened for their reception, and the earth ſhould be gently preſſed to the ſtalks and roots: The morning after, water them ſparingly and with care; repeat the watering every four or five days, if the ſeaſon proves dry; keep them conſtantly clean from weeds; ſtir the ſurface of the earth every ten days, and draw the mould up to the ſtems of the plants. And this is the management of thoſe planted abroad, which will be the ſecond crop, until they come to flower.

Let us return to our glaſſes, which are to be our firſt crop of Cauliflowers. Having taken away the weakeſt, and left the ſtrongeſt plant under each glaſs, make good the earth that was taken away with the other plants, and carefully draw ſome fine mould up to the ſtem of that which is left. As the days encreaſe in length, and the weather grows warmer, raiſe the glaſſes all round four or five inches; and in mild weather wholly take them off, covering them only in froſty and bad weather. If no rain falls, water the plants every four or five days; draw freſh mould up to the ſtems to encourage the plants, and they will daily become flouriſhing and fair. If the plants get too large for the glaſſes, and bad weather ſtill continues, which often happens even late in March, raiſe a ridge of mould round each plant, the breadth of the rim of the glaſs, four inches high. On this elevated mould ſet your glaſſes, and it will raiſe them ſo high above the plants, that their leaves will have room to expand themſelves without being cramped or injured by the glaſſes. Thus you may protect them againſt any weather as it ſhall happen, and your plants will meet with no check in their progreſs towards perfection.

From this time you muſt harden your plants more and more to the open air; the glaſſes muſt be wholly taken off in all mild, cloudy and ſhowery weather, but muſt nevertheleſs be ſet over them again in the evening; and if too much rain happens, they muſt be protected from it by the glaſſes. By this time the days will be got long, the heat of the ſun very powerful, and as you muſt attend your plants to cover them in froſty evenings, ſo you muſt be very careful to uncover them again in mornings; for by this time your plants will be grown ſo very large, that the leaves probably will preſs againſt the ſides of the glaſſes, and the ſun ſhining on them with his full ſtrength will ſo ſcald them, that the whole plant will be proportionably affected, and ſo damaged as hardly ever to become a fair Cauliflower.

We come now to the laſt degree of management of theſe Flowers. We may ſuppoſe ourſelves to be far advanced in April, and may with good confidence expect to find ſome flowers formed in the center of the ſtrongeſt plants. Then is your time carefully to watch your crop; for the profit for your foregoing labour now comes on. Review them every morning, and as you find they ſhew their flowers, break two or three of the inward leaves over them to ſhade them from the ſun. The chief deſign of ſhading them in this manner is to preſerve their colour; for if they are expoſed wholly to the ſun's rays, they will become yellow, and of inferior beauty. The Cauliflower is adjudged to be at its full growth when the outſide pieces begin to ſpread and part; then is the time it ſhould be taken for uſe. It is a cuſtomary way to cut them off; but this is very bad: The whole plant ſhould be pulled up. This work ſhould always be performed in a morning before nine o'clock, and the plant will be much firmer, and eat more criſp, than if gathered in the heat of the day; and for the ſame reaſon the Flowers, after they are gathered, ſhould be kept conſtantly in a cool place until they are uſed.

This is the firſt crop of Cauliflowers. In about three weeks, or a month's time, many of thoſe planted in the open ground will ſhew their flowers; and thus, from one or other of theſe plantations, there will be a ſucceſſion of Cauliflowers for three months; which makes any other autumnal raiſing of theſe plants unneceſſary, unleſs you want amazing quantities for ſale. When this is the caſe, proceed to a ſecond ſowing about ten or twelve days after the firſt, and prick the plants out, when they are of a proper ſize, on a bed like the former, to be covered all winter with an hotbed frame, and let them have as much air as poſſible in mild weather; pick off all yellow or decayed leaves, and by the middle of February they ſhould be planted out for good; two feet and a quarter will be a proper diſtance for the plants, if you intend the ground ſhould contain a full crop. If you plant among them Winter Cabbages, Cucumbers for pickling, or the like, to occupy the ground after the Cauliflowers are taken off, two rows ſhould be ſet, at about a foot and a quarter aſunder, and then a ſpace of four feet and a half before you come to the two next rows: And thus muſt the whole ground be laid out, that the larger vacancies may contain Cucumbers for pickling, and the Winter Cabbage plants ſet between the narrow rows. Thus, when your Cauliflowers are cleared off, your ground will contain a full crop of another ſort of Kitchen-ſtuff to come in for after-uſe: And theſe methods Gardeners practiſe to make the moſt of their land, which is a very commendable induſtry.

Directions for raiſing Cauli-flower plants in the ſpring.

I proceed now to give directions for raiſing plants in the ſpring, to keep up the ſucceſſion of Cauliflowers.

By the middle of February, therefore, let a moderate hotbed be prepared, and covered with good, light, rich earth: On this ſow your ſeeds, ſifting over them a quarter of an inch of the like kind of fine mould; every other day ſprinkle the beds with water, and raiſe the glaſſes to let in the air. When your plants come up, which will be in a few days, give them air as the weather will permit, to prevent their being drawn up weak; and after they have got five leaves, they muſt be pricked out on another hotbed. This ſhould be very temperate; and the plants need not be at a greater diſtance than two inches from each other. Give them air as the weather will permit, water them now and then, but always guard them againſt great rains, which are very injurious to theſe plants. As the days get longer and warmer, ſo muſt the plants be more and more uſed to the open air; and by about the middle of April they may be planted out for good, in the ſame manner as the others. Theſe plants will regularly ſucceed the others, will come in about the end of Auguſt, and continue fit for eating until the early froſts advance, which makes any other ſowing unneceſſary; though it is a common practice to ſow for a fourth crop the laſt week in May. Plants thus raiſed will be in perfection late in autumn, and, if the former part of the winter ſhould prove mild, will be in eating in December: But ſuch plants are generally watery, are of inferior flavour to the ſummer-blown plants, and are ſeldom coveted by any but gardeners, who make a trade of them.

Of raiſing Cauli-flower ſeeds.

The ſeeds of Cauliflowers are produced in leſs plenty than any of the former kinds; and the plants being liable to mildew, makes them ſcarce, and occaſions their being ſold at ſo dear a rate. Indeed, ſome of the more looſe and frothy ſorts will ſeed near as freely as ſome of the Cabbages; and from ſuch as theſe the ſeeds are too frequently collected for ſale: This ſhould make a gardener more anxious for raiſing his own ſeeds, than purchaſing thoſe he knows nothing about. From the Earlieſt ſorts the ſeeds muſt be collected; and among theſe, ſuch plants muſt be marked for ſeed as are the largeſt, moſt compact, and whiteſt. Let the inner leaves of theſe plants remain over them until the head divides into branches; then take them off by degrees, leaving the flowers to ſport in their uninterrupted luxuriancy in the open air. If the weather proves dry, you ſhould now and then ſprinkle the plant with clear water, which will greatly contribute to prevent the mildew; and, as the ſtalks advance, ſome ſtrong ſticks ſhould be thruſt into the ground, to which they ſhould be faſtened, in order to prevent their being broken down by the winds. Sprinkling the plants now and then ſhould be repeated until the ſeeds are nearly ripe, when it ſhould be diſcontinued; uſe ſome means to keep off the birds; and as ſoon as you find the ſeeds are ripe, cut the branches off from the ſtalks, and ſpread them upon a mat, to continue there until they are perfectly dry; then threſh them out, and put them up in bags for uſe.

Of BROCCOLI.

Broccoli deſcribed.

The Broccoli is another variety of the Cabbage, and the improvement of it is very great in our gardens. It was firſt brought into England by the father of my late worthy friend Coſmus Neville, Eſquire, of Holt, in Leiceſterſhire, and it has been cheriſhed in our gardens, and careſſed at our tables, ever ſince. We cultivate it with good reaſon; for it is one of the richeſt winter greens exiſting, and is by many ſaid to be ſuperior to Cauliflower, or even Aſparagus itſelf. There are ſeveral varieties of it, all of which are excellent in their kind; and we have one or other of the various kinds for eating from the beginning of September until April. The principal varieties are,

Varieties.

1. The Early Broccoli.
2. The White Broccoli.
3. The Purple Broccoli.
4. The Black Broccoli.
5. The Turnep Broccoli.

1. The Early Broccoli has been but lately introduced into our gardens: There are of it the

Green,

Culture of the Early,

Green, the Purple, and the Blue, all which indiſcriminately ariſe from the ſame ſeed. To raiſe this ſort in perfection, the ſeeds ſhould be ſown the latter end of March on a bed of light earth; and ſhould be covered with about a quarter of an inch of very fine mould. When the plants come up too cloſe, they muſt be thinned; they muſt be watered if the weather ſhould prove dry; and be conſtantly kept clean from weeds; then, on the firſt moiſt day that happens in May, they ſhould be tranſplanted to the places where they are to remain; they ſhould be ſet in rows two feet aſunder, and at about a foot and a half diſtance from each other in the rows. As weeds ariſe they muſt be hoed up, and the earth muſt carefully be drawn up to the ſtems of the plants. They will become fit for eating early in September, and will continue to enrich our tables until the froſt ſtops them, for they generally give way to its cutting power.

White,

2. The White Broccoli, called by ſome the Cauliflower Broccoli, and by others the Naples Broccoli, is in eating all winter, if the weather does not prove too ſevere. When this happens, whole crops are generally deſtroyed; for the plant itſelf is rather of a tender nature, but yet hardy enough to reſiſt the common cold of our ordinary winters. It is a delicate plant, eats very much like the Cauliflower, and is by many preferred to it. The heads, by proper management, will grow large; and ſo much reſemble Cauliflowers, that they have by many been taken for them. They ſhould be ſown at two different times, in order to continue the ſucceſſion the longer. The firſt ſowing ſhould be made early in May; the other, the laſt week in June: In either caſe, let them ſtand in the ſeed-beds, watering them as you ſhall ſee occaſion, and keeping them clean from weeds; and when they have ſix or ſeven leaves each, plant them out in other beds at about four inches from each other, water them until they have taken root, and in about a month or five weeks after that remove them to the places where they are to remain. The ſituation ſhould be naturally warm, and well-ſheltered; the ground ſhould be light, double-dug, and ſome rotten dung worked to the bottom of each trench; the ſurface ſhould be made level, and the plants ſhould be ſet in rows two feet and an half aſunder, and a foot and an half from each other in the rows: Water them until they have taken root, hoe the weeds down conſtantly as they ariſe, and draw the earth up to the ſtems of the plants; and if, inſtead of the ſecond hoeing from the time of planting, the ground be dug between the rows, it will be ſo much the better. With this management, your plants will be brought to the utmoſt perfection. The firſt ſowing will be fit for eating before Chriſtmas, and the other will ſucceed it in order; ſo that you may have a ſupply of theſe plants from that ſeaſon until the middle of April.

Purple,

3. The Purple Broccoli is the moſt delicate of all the ſorts, and admits of ſeveral varieties; ſuch as the Green, the Brown, the Blue, and others of different tints, which will all riſe from the ſame ſeed, if it is not properly ſaved. The Purple is called the beſt ſort, and in that colour the Gardener is ambitious of preſerving his Broccoli: The others, eſpecially the Green and the Yellowiſh-coloured, are looked upon as ſpurious, and are frequently thrown away. But there is no occaſion for this, as ſuch Broccoli, though ſmaller, if cut before it is not grown too old, will be equally good, if not ſweeter, than thoſe large heads of Purple Broccoli: Care muſt be taken, however, to pluck up all ſuch ſtalks before they come to flower, otherwiſe they will fecundate thoſe ſorts that are ſaved for ſeeds, and debaſe the breed.

The Purple Broccoli, (rejecting all other colours of this ſort) is raiſed by ſowing the ſeeds the beginning of May, or ſooner, according to your ſituation; and when the plants come up, and they have ſeven or eight leaves, they muſt be tranſplanted to beds provided for the purpoſe; where having ſtood about a month or five weeks, on a moiſt day they ſhould be planted out like the others; and managed accordingly. They will come into eating about the middle of December, and continue good until the middle of April. This ſort loves a rich, light ſoil, and a ſheltered ſituation; and in ſuch a ſtation you may expect to ſee this Broccoli in its utmoſt perfection.

Black,

4. Black Broccoli admits of two or three varieties; ſuch as the Brown, the Blue, and the like. It is the moſt hardy of all the ſorts, but is much inferior to any of thoſe before-mentioned: It has this good property, however, it is never deſtroyed with cold, let the ſituation be what it will; whereas the other ſorts, in our hard winters, are often taken off, if they happen not to be planted in well-ſheltered places. The ſeeds ſhould be ſown the beginning of May, and the plants ſhould be managed like the other kinds; but as they grow rather taller than the Purple Broccoli, they ſhould be allowed rather a greater diſtance in the rows, when they are planted out for good.

and Turnep Broccolis.

5. The Turnep Broccoli is of the leaſt value of any of the ſorts, and is chiefly raiſed as a curioſity, the ſtalks ſwelling above the ground in the manner of the Turnep Cabbage: They will ſometimes be large, globular, and have a ſingular look; on which account they are ſought after by ſome. From the top of this Turnep, or globular body, proceeds the Broccoli; but the heads are very ſmall and trifling with reſpect to the other ſorts.

Time for cutting Broccoli.

Broccoli ſhould be cut when the heads are full grown, and before they begin to run to feed, and about four inches of ſtalk ſhould be to each head. The outer ſkin ſhould be ſtripped off before they are boiled, for the ſtalks are by many preferred to the heads; and indeed it is the upper ſtalk, or inſide of the ſtem of the Black Broccoli that is eaten, without paying little or any regard to the heads: The White kind is always eaten like Cauliflowers; they muſt be boiled in a clean linen cloth like them, and ſerved to the table exactly alike. After the heads are cut off, the ſtalks will ſend forth many ſide-ſhoots, or ſmaller heads, which may be gathered when the others are over; for they are equally ſweet, or ſweeter than the general heads, and are by many preferred before them.

The ſeeds of all the ſorts of Broccoli ripen much more freely than thoſe of Cauliflowers; and to have them in perfection, little more is to be done than fixing on the beſt heads of the different ſorts, and keeping thoſe ſorts ſeparate. Let the largeſt, the moſt compact, and thoſe of the beſt colours, be reſerved for feeds. Of the firſt and third kinds no other colour ought to be admitted but thoſe of the beſt Purple; theſe ſorts are alike in nature, and differ only in that the firſt ſort comes in ſo much earlier. The White Broccoli can better be preſerved and continued good in its kind, becauſe it admits of no varieties except the different degrees of White and Yellow;

Yellow: The beſt White, however, as well as the largeſt, the earlieſt and moſt compact flowers ſhould be choſen. Of the fourth ſort, thoſe of the deepeſt colours ſhould be ſelected for the purpoſe; and of the firſt, only thoſe that turnep the beſt ſhould be ſaved for ſeeds.

Directions for ſaving the ſeeds. These ſorts muſt be all kept at a good diſtance from one another, and the heads ſhould remain untouched until they ſhoot up to flower; then ſtrip off all the ſide-ſhoots, leaving thoſe only for ſeeds that formed the firſt and general head. If dry weather happens, now and then ſprinkle the plants with water as they are going out of flower, and let the branches be carefully tied up to ſticks thruſt into the ground, on purpoſe to prevent their being broken by the winds. As the ſeed ripens, defend it from birds; and when you find it fit to cut, take off the ſhoots with a ſharp knife, to prevent the ſeeds ſcattering; then ſpread them upon mats for a few days to dry; and afterwards threſh them out, and put them into bags to be ready for uſe.

Titles. The title of the Cabbage is, *Braſſica radice cauleſcente tereti carnoſâ.* The varieties of it are expreſſed by old Botaniſts in a manner pointing out their difference of growth. Caſpar Bauhine calls the White Cabbage, *Braſſica capitata alba*; the Red, *Braſſica capitata rubra*; and ſo of the others. Tournefort calls the Turnep Cabbage, *Braſſica radice napiformi*: And the ſorts of Savoys are termed by different Botaniſts, *Braſſica criſpa*; *Braſſica ſabauda hyberna*; *Braſſica undulata*; and the like. The Borecole is termed, *Braſſica fimbriata*; and the ſorts of it have epithets pointing out the varieties. The Cauliflower is termed, *Braſſica cauliflora*: And the Broccoli, *Braſſica Italica alba et purpurea, Broccoli dicta.* Theſe improved ſorts are cultivated in moſt gardens in Europe; but the Cabbage in its wild ſtate is chiefly of Engliſh growth, being found near the ſea in many parts of our country.

C H A P. XII.

BRASSICA RAPA, The TURNEP.

THE Turnep and the Cabbage belong to the ſame family, being different ſpecies only of one genus; and though the Turnep does not vary in ſo many different forms as the Cabbage, yet, on the whole, it is perhaps as uſeful and profitable a ſpecies as the Cabbage in all its varieties.

The principal ſorts are,

Varieties. 1. The Early Dutch Turnep.
2. The Ruſſia Purple Turnep.
3. The Yellow Ruſſia Turnep.
4. The French Turnep.
5. The Large Yellow Turnep.
6. The Blank Turnep.
7. The Long-rooted Turnep.
8. The Red Turnep.
9. The Green-topped Turnep.

More varieties of the Turnep might be mentioned; but theſe are the principal ones that are cultivated either for curioſity or uſe.

Culture of the Early Dutch, 1. The Early Dutch Turnep leads the van, and is chiefly propagated for ſpring uſe. The ſeeds ſhould be ſown for this purpoſe, early in February, in a light, freſh ſoil; and after the plants have got four leaves, they muſt be hoed to about four inches aſunder; which will be diſtance enough for this early ſort, as it is ſuppoſed the Gardener will begin drawing out the largeſt plants as ſoon as they begin to turnep. They will be in eating in May, and are highly welcome with their green tops at our tables in that ſeaſon.

Purple Ruſſia, 2. The Purple Ruſſia Turnep has not been in our gardens above ſix or ſeven years, and is ſaid to be brought us from Ruſſia. It is a ſmall early Turnep: The outer coat is purple, and the fleſh alſo appears of a purple die at our tables. It is tolerable good eating, but ſeems to be more for curioſity than real ſervice.

Yellow Ruſſia, 3. The Yellow Ruſſia Turnep is of very little value, the roots being for the moſt part ſticky and hard. The fleſh within-ſide is yellow like our common Yellow Turnep, but it will not grow to a fourth part of the ſize with it: Add to this, they are ſubject to run into flower the ſame year they are ſown; ſo that you muſt be as careful as poſſible in gathering the ſeeds from the beſt roots. A large ſhare of your Turneps will not ſwell at the roots, but run directly into ſpindles: So that this ſort would not be propagated at all, only that it is new, and was brought from a diſtant country; though it may have its uſes in giving flavour to ſoups, &c. You may ſow them any time in the ſpring; and you will find them come into uſe, from the time of ſowing, ſooner than the Early Dutch Turnep.

French, 4. The French Turnep is alſo of very little uſe, unleſs in ſoups; for which purpoſe, in ſome countries, it is highly eſteemed. It ſoon becomes ſtringy and bad; ſo that it muſt be eaten when very young, or it will be good for nothing.

Large Yellow, 5. The Large Yellow Turnep is another ſort that is propagated chiefly for curioſity, as there are few who reliſh them ſo well as the Common Turnep; but when people like them, they are equally as profitable as any ſort; for they will grow very large. They are poſſeſſed of a ſtrong ſweet taſte, and their fleſh is very yellow, ſo that they cauſe a variety at a table: On this account they are cultivated by ſome; and alſo by a few others, who prefer them before any ſort of Turnep whatſoever.

Blank, 6. The Blank Turnep is a good eating Turnep, though vaſtly inferior to the Red or Green-topped kinds; on which account it is propagated chiefly for variety; though it would have been highly eſteemed, were it not outdone by thoſe other moſt excellent ſorts.

Long-rooted, 7. The Long-rooted Turnep is a very good Turnep for ſoups, if uſed when young; but it ſoon becomes ſtrong and ſticky: It hath a large oblong root, that ſtrikes into the ground like a Parſnip, and is propagated chiefly by thoſe who are fond of having every thing; but its worth is vaſtly inferior to the common ſorts.

and Red and Green-topped Turneps. 8, 9. The eighth and ninth ſorts are the moſt common of all the ſorts of Turnep, being thoſe that are chiefly propagated for feeding of ſheep, and are worth all the other ſorts put together. The Early Dutch Turnep, indeed, is chiefly ſown in gardens, becauſe it comes in ſooner than the other from the time of ſowing; but when you have got a crop of Dutch Turneps, and you have time enough for the Green-topped ſort to come in to ſucceed them, it ſhould be preferred before the Early Dutch for any after-crop, it being much ſuperior to it in ſize and goodneſs. It is very rare, if the land is tolerably light and freſh, that you ever meet with a bad Turnep of this kind; and it is but too frequently that you find the Early Dutch (if they are not pulled before they are full grown) otherwiſe than ſtrong and ſtringy.

Turneps may be ſown at almoſt all times of the year; though they generally leave off ſowing in Auguſt, becauſe their roots will not have time to ſwell to any bigneſs before the hard froſts come on. Be ſure, however, to ſow ſome of the Early Dutch Turnep for your firſt crop, the beginning of February, if the weather will permit; and ſoon after that, ſow ſome ſeeds of the Green-topped to ſucceed them; after which you may ſow them at what intervals you think you ſhall have occaſion for them to come in; though the moſt common intervals to be obſerved in ſowing theſe ſeeds, is April, June, and Auguſt, and then leave off for that ſeaſon.

The Turneps for the ſupply of your table during the winter muſt be the Red or the Green ſorts, the latter of which is generally preferred: And if they are not raiſed near, ſo that they may be purchaſed at an eaſy rate, a large quarter muſt be ſown in the end of May, or the beginning of July; and theſe will come into uſe the beginning of winter, and continue ſo until they begin to ſhoot to flower in the ſpring.

Time of hoeing,

The time for hoeing the Turneps is when they have got about four leaves; a dry ſeaſon ſhould be choſen for the purpoſe, to kill the weeds as they are hoed down; and the plants ſhould be left at about a foot aſunder. Thus, before any more weeds can ariſe, the Turneps will have covered the ground with their leaves, and will call for no more trouble of any ſort until they are pulled up for uſe.

Turneps delight in an open ſituation, and a light, ſandy, freſh ſoil; and if you are lucky in having ſuch a ſpot for their reception, you will enjoy this uſeful eſculent in full perfection.

A moiſt ſeaſon is highly beneficial for Turneps, to bring them to perfection, and ſecure them from the fly. Whenever they come up ſtrong, and continue growing in luxuriance without check or controul, the fly never attacks them; but when they are ſtinted or ſtopped in their growth by dry weather, the fly then preys upon them in that feeble ſtate, and whole fields of young Turneps are frequently taken off in a few days. In order, therefore, to guard againſt the fly, ſome method muſt be taken to keep your young Turneps growing without interruption: This never can be effected in fields, or where there are large quantities; but in gardens it may, where a few beds only are raiſed for the ſupply of the table.

and various methods of preſerving Turneps from the fly.

Induſtry is the Gardener's honour, and toil and vigilance muſt attend his purſuits. At the time, therefore, of ſowing the ſeeds, let the beds be hooped, and if a favourable ſeaſon follows, the Turneps will grow of courſe to perfection; but if a dry parching time ſhould happen, you muſt throw mats over the hoops, and cover the Turneps from nine in the morning until the evening. Every morning, before you lay the mats over the young breed, give them a gentle ſprinkling of water, and every evening be ſure to take off the mats, that they may have the full benefit of the air and dews. This trouble will not be very great, and will not laſt long; for your Turneps will grow on uninterruptedly, and will ſoon get large enough, in the rough leaf, to be out of the danger of the fly. However, it certainly is not equal to the trouble of digging the ground, and ſowing of it over again, which muſt always be the caſe when your Turneps are gone off in that manner; neither will the family be diſappointed; for the Turneps will come in at the expected time, and the ſeed that would be waſted to make good the crop will be ſaved, and may be uſed to raiſe another to ſucceed it in order.

Where there is no conveniency to obſerve the above method, or the quantity is too large to make it practicable, it is a good method to prepare a water, by boiling in it a good quantity of Tobacco duſt and ſtalks, and mixing with it Soot, Brimſtone, and Aloes: In this water let the ſeeds remain all night, and ſow them next day, throwing the water and the ingredients as equally as poſſible all over the bed.

Another method practiſed to prevent the fly, is by ſtrewing of the land with ſoot; ſome uſe lime, others chaff, and many, a mixture of them all. Theſe are all very good methods and helps to the young Turneps, but are far from being infallible; in ſpight of the beſt receipts yet known, the fly will often get the better of your Turneps. The only ſure way is by covering them as above; and when the quantity is too large for that practice, or the above receipts have failed, or the Turneps have gone off without uſing any method to preſerve them; nothing then is to be done but to prepare the ground, and ſow it over afreſh, hoping for a more propitious ſeaſon and better luck.

Of raiſing Turneps for Cattle.

Turneps are raiſed for cattle either after a crop of Barley, or in the fallow year of land. When they are to ſucceed Barley, the land is immediately ploughed and well harrowed, and the ſeeds ſown with all diſpatch: A pound of ſeed will be ſufficient for an acre, if judiciouſly ſcattered, though two pounds are generally uſed for the purpoſe. A light, ſhort-tined harrow muſt let them into the earth, and the ground muſt be immediately rolled to ſmooth the ſurface. If rain falls after the work is done, it will ſoon bring your plants up; and if the ſeaſon continues moiſt, they will in a few days be in the rough leaf, and out of danger of the fly. If a dry ſeaſon ſhould happen after ſowing, and your young Turneps ſhould be deſtroyed by the fly, the ground muſt be well harrowed, and ſowed again. The expence of the ſeed is but trifling; the greateſt loſs is in being ſo backward in the ſeaſon, that the Turneps will not have time to arrive at their full growth. When the plants have got about four leaves, then is the time for their being hoed; they ſhould not be left nearer than a foot from each other; the weeds muſt be carefully hoed down with them, and a dry ſeaſon ſhould be choſen for the purpoſe, the more effectually to deſtroy them: And if this is done thoroughly, no other hoeing is neceſſary, as the plants will ſoon cover the ground, and choak the weeds as they ariſe. Barley Turneps are reckoned the beſt, of all the ſorts, for the table; though, in general, they will not be ſo profitable as thoſe raiſed on the fallow land, becauſe they will not be ſo large: The land, however, having in the former part of the year borne a crop of Barley, and in the latter part a crop of Turneps, it affords a double crop, and conſequently great profit to the owner, who will be ready enough to prepare it for a freſh crop of grain in the ſucceeding ſpring.

Turneps are uſually ſown on fallow ground in May, or the beginning of June at furtheſt. The ground muſt be well ploughed in April, and again in May, for the reception of the ſeeds: But before you ſow them, let it be twice well-harrowed, and the ſurface laid as ſmooth and fine as poſſible. The ſeeds muſt be harrowed in with a light, ſhort-tined harrow, and the ground muſt be immediately rolled to ſmooth the ſurface. When the plants have four leaves they muſt be hoed, leaving them at eight or ten inches aſunder; and if the weeds ariſe they ſhould have a ſecond hoeing, when the plants ſhould be cleared away to about fourteen inches from each other; for theſe plants being ſown earlier, will be larger than the Barley Turneps, and ought to be allowed a greater diſtance for their roots to ſwell.

In winter they will come into uſe, and are admirable food for ſheep and cattle; or, if boiled, they will fatten hogs. In order to make the moſt of them, the beſt way will be to draw them for the cattle, and they will ſo entirely eat them up that there will be no loſs. But when the quantities are large, and it is more convenient for the farmer to let the cattle eat them as they grow, a ſufficient quantity of hurdles ſhould be provided, and ſuch a quarter ſhould be hurdled out as will be ſufficient for the cattle to feed on for one day only: The next morning the hurdles ſhould be moved forwards for their next day's food; and ſo on, until the piece is entirely eaten up. Thus your cattle will have their Turneps every day freſh, and they will make clear work as they go on; whereas, were they ſuffered to range over a large ſpace of Turneps, or even more than they could clear off in a day, they would cauſe great loſs by trampling and ſcooping the plants. And although theſe are afterwards generally forked out, yet having the heart of the Turnep formerly taken away, and the rhind or bottom part only left, they will imbibe the wet, and become rotten or of little value; and ſuch as may have received the urine of any of the cattle (which, when they are eaten by ſheep, will be no inconſiderable number) will never come into any uſe at all, for no cattle will eat them: So that, to avoid this loſs, the beſt way will be to allot the cattle daily their food, and thus force them to make clear work as they go on.

This method of ſowing Turneps, and which is generally practiſed, is called the Broad Caſt; but there is another way that has been lately introduced, viz. by ſowing the ſeeds with a drill plough in rows. The diſtance of theſe rows ſhould be three or four feet from each other; nay, there are ſome who never ſow them nearer than five or ſix feet aſunder; and this latter method, though the rows are at ſo great a diſtance from each other, is ſaid to produce a greater weight of Turneps than if the rows were nearer, the plants growing, at that diſtance, to ſuch an amazing ſize.

When the Turneps are ſown in rows in this manner, the ground between the rows muſt be ploughed, the plants in the rows muſt be hoed when they come too cloſe together, and all the weeds muſt be deſtroyed. This method of practice is preferable to all others in this reſpect; viz. that the land between the rows being very conſiderable, and undergoing proper ſtirrings to kill the weeds, it will be properly fallowed, and be better prepared to receive a crop of Barley, or other grain, the ſpring following.

Of ſaving Turnep ſeeds.

In order to have good Turnep ſeeds, the only way is to tranſplant the beſt and faireſt roots of the different ſorts, to a ſpot where you can eaſily defend them from the birds. The ground ſhould be well dug, and the roots ſhould be placed at two feet diſtance from each other; the weeds, as they ariſe, muſt be conſtantly hoed down; and as the ſeeds ripen, they muſt be guarded from the birds, which would otherwiſe ſoon have the greateſt part of them. When your ſeed is ripe, cut it up from the bottom; and after it has lain a few days to be perfectly dry, threſh it out, and put it up in bags for uſe.

The Turnep is titled, *Braſſica radice cauleſcente orbiculari depreſſâ carnoſâ.* Ray calls it, *Rapa ſylveſtris*; Caſpar Bauhine, *Rapa ſativa rotunda*; and John Bauhine, *Rapum ſativum rotundum.* It is a native of England.

CHAP. XIII.

CALENDULA OFFICINALIS,

POT MARIGOLD.

Culture of Marigold.

IN order to have a regular crop of Marigolds, let a piece of ground be well dug about the middle or latter end of March, and let the ſeeds be ſown regularly, and well raked in. The plants will ſoon come up; and when they are in their fourth leaf, they ſhould be hoed like Turneps, thinning them to about a foot diſtance from each other. At this time the weeds muſt be deſtroyed; and the more effectually to do this, the work ſhould be performed in a dry day. Hoeing the weeds down muſt be repeated as often as they ariſe; and that is all the trouble the plants will require. They will come into flower in June, and will continue the ſucceſſion of bloom until the froſt ſtops them.

In the winter dig up the ground, lay it level, and you may expect a very good crop the next year without ſowing.

Or if you chuſe to let them go entirely diſregarded, they will ſhed their ſeeds, and continue the ſucceſſion themſelves, which may be ſufficient for common uſes.

But in order to have regular beds of Marigolds, let ſome ſeeds from the beſt plants be ſaved, and let a freſh ſowing be made every ſpring, as before.

The Titles have been given already.

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CHAP. XIV.

CAMPANULA RAPUNCULUS, RAMPION.

Culture of Rampions

THE culture of Rampions is very eaſy. They readily grow from ſeed, which ought to be ſoon about the middle of May. They grow naturally in many parts of England, which teaches us that moſt of our ſoils agree with them; though, if the ground be naturally rich, freſh, and light, the roots will be larger, and proportionally better flavoured than thoſe that are raiſed in an oppoſite ſort of mould.

The ground ſhould be well dug, and the ſurface made level and ſmooth; the ſeeds ſhould be ſown thinly with an even hand, and well raked in, or covered with about a quarter of an inch of the fineſt mould.

The plants will then readily come up; and when they are grown to about two inches high they ſhould be hoed, thinning them to half a foot diſtance from each other: The weeds at this time ſhould be carefully deſtroyed; and the more effectually to do this, the hoeing ſhould be performed in dry weather. As the weeds ſhall afterwards ariſe, they muſt be conſtantly cleared off; and if very dry weather ſhould happen, the beds ſhould be watered every other evening. This is all the management theſe plants will require; and with this management the roots will be in full perfection. They will be in eating in October, and you may continue to draw them for uſe all winter, for they will be good until April, when the ſtalks will ſhoot up for flowering; at which time a few plants ſhould be left for ſeeds, and the reſt dug up and thrown away.

Time of ſowing.

As the roots of this ſort become ſticky and good for nothing when the ſtalks advance for flower, it makes it highly neceſſary to defer ſowing the ſeeds before the middle of May; becauſe, if they are ſown much earlier, a large ſhare will run up to ſeed in the autumn. Thus the roots will be deſtroyed, and your expectations of a large ſhare of your crop baffled.

Titles.

This ſpecies is titled, *Campanula foliis undulatis, radicalibus lanceolato-ovalibus, paniculâ coarctatâ.* In the *Hortus Cliff.* it is termed, *Campanula foliis radicalibus lanceolato-ovalibus, caule ramoſiſſimo patulo.* Caſpar Bauhine calls it, *Rapunculus eſculentus*; and Dodonæus, *Rapunculum.* It grows naturally in England and Switzerland.

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CHAP. XV.

CICHORIUM ENDIVIA, ENDIVE.

Remarks.

ENDIVE is chiefly raiſed for autumnal and winter uſe. It is a very wholeſome plant, and an excellent ſallad, if the bitterneſs peculiar to it be diminiſhed by good culture to a proper degree. Thoſe who are fond of it ſubſtitute it in the room of Lettuces in the autumn; pleading, that it cauſes a variety and an agreeable change, after having eat Lettuces of the different kinds for ſeveral months before. Endive alſo is very uſeful in ſoups; ſo that in thoſe reſpects, where there are large families, a good quantity of Endive, by different ſowings, ought to be raiſed.

Species.

There is only one real ſpecies of Endive, which conſiſts of the following varieties:

1. The Common Endive.
2. The White.
3. The Green Curled.
4. The Broad-Leaved Batavia.

Culture.

Theſe are the ſorts of Endive that are chiefly cultivated. And for the firſt crop, let the ſeeds be ſown about the middle of May, in a naturally cool and ſhady place; ſcatter them thinly over the bed, and rake them in; and if the weather ſhould prove very dry afterwards, water the beds every third evening, and it will effectually bring up your plants. Keep them clean from weeds; water them every other evening, if neceſſary; and when they are about three or four inches high, they will be of proper ſize to be ſet out. The ground for their reception ſhould be well dug, and a moiſt day ſhould be made choice of for their removal; and for want of this the whole ground ſhould be well watered before a ſingle plant of Endive is ſet on it. Having your ground thus in readineſs, begin to take up your plants out of the ſeed-bed with care, to prevent the roots being broken or damaged, and plant them, as you take them up, in lines at one foot from each other: Crop the tops of the leaves at this time; ſettle the mould well to the roots; and finiſh with a good watering, if the weather renders it neceſſary, and repeat it every other evening until your plants have taken root. The largeſt plants muſt be firſt taken out of the ſeed-bed, to make room for the others to grow. In about ten days a ſecond thinning may be made in the like manner; and in about ten days after that, the ſmalleſt plants will be of proper ſize to remove; at which time the ſeed-bed ſhould be cleared, and then three diſtinct quarters of Endive will be made in the cooleſt part of the Kitchen Garden.

About the middle of June a ſecond ſowing ſhould be made, and the plants ſhould be ſet out at three different times in the ſame manner. About the middle of July a third ſowing ſhould be made as uſual; but the plants, when they are ſet out, muſt have warm, well-ſheltered places. After that, the buſineſs of ſowing may be diſcontinued for that ſeaſon; for, from the three different ſowings, nine beds well filled with plants of different ſizes will be had, which will continue to ſucceed each other throughout the whole ſeaſon. If you find any plants ſhoot up to ſtalk, you muſt pull them out to make room for the others: And this, except keeping them clean from weeds, after they have taken root, is all the trouble they will call for until the buſineſs for blanching them comes on.

Method of blanching Endive.

When the plants are grown ſo large as nearly to meet in the lines, they will be then of a proper ſize for blanching; but this is not to be performed on the whole bed together. A ſufficient number of the largeſt only are to be ſelected for the purpoſe, and the others are to ſucceed them in order. Having therefore provided yourſelf with a ſufficient number of baſs ſtrings, in the afternoon of ſome dry day gather the inſide leaves together, and draw the others regularly round them, at the ſame picking off all decayed or rotten leaves that may be found on the plant. Having thus collected your leaves as near their natural order of growth as poſſible, tie them with the baſs an inch and an half, or two inches, from the top. This firſt operation from the firſt planting will be about the middle of July; and in about eight or ten days after, a ſecond operation ſhould be performed on ſuch plants as are ready to blanch; tying alſo at the ſame time a ſecond piece of baſs round the middle of thoſe that were firſt tied, to prevent their burſting, which they are very liable to do.

In about twenty-five days they will be perfectly blanched; after which they ſhould be taken up and uſed, for they ſeldom laſt good longer than a fortnight: And this makes the operation ſo neceſſary to be performed at different intervals, that a ſufficient number of plants may come in after one another in their regular ſucceſſion for uſe.

This, then, is the management of the firſt two crops deſigned for ſummer and autumnal uſe. The third crop, which is deſigned for the ſervice of the winter, requires a different treatment.

For this crop, a piece of ground muſt be dug in the warmeſt part of the garden, and the mould muſt be thrown up in ridges, each ridge fronting the ſouth ſun. Againſt theſe ridges the plants muſt be ſet, when they are of ſize for blanching; but they muſt be ſet ſo deep againſt the ſide of each ridge, facing the ſun, that the tops of the plants only may appear in view: Thus your plants will be in a manner nearly buried; they will nevertheleſs ſtrike root, and will blanch this way, let the weather be what it will. When they are ſufficiently blanched, which will be in about the ſame time with the others, they ſhould be directly uſed, or they will ſoon be ſpoiled. And this makes it neceſſary to keep planting, every ten days or fortnight, until February or March, freſh plants facing the ſun in the like kind of ridges. The diſtance theſe plants ſhould be allowed from each other ſhould be a foot; and if the winter ſhould prove very ſevere, a light covering of peaſe-ſtraw may be afforded your plants, which ought always to be taken off on the return of fine weather.

Of ſaving the ſeed.

In order to have good ſeed of Endive, nothing more need be done than to mark the fineſt plants of the different ſorts, as they are growing in their warm ſituation in October. Theſe plants muſt remain untouched until March, when they ſhould be taken up and planted, half a yard aſunder, againſt a ſouth wall or hedge. As the ſtalks advance in height, they muſt be faſtened to ſticks thruſt into the ground, or to the wall, to prevent their being broken by the wind. As you find your ſeeds ripen, cut off the branches, and ſpread them upon a cloth; and repeat this every day until the whole is gathered, for they will not all be ripe together on the ſame plant; and if you were to wait until the ſeeds of the plant were wholly ripe, great part of the firſt ripened ſeed would be ſcattered and loſt. As you gather them with the ſtalks, be ſure to ſpread them upon a cloth in an airy place to dry; then beat them out; and when you find they are ſufficiently hardened, put them up into bags to be ready for future uſe.

Titles.

Endive is titled, *Cichorium floribus ſolitariis pedunculatis, foliis integris crenatis.* Caſpar Bauhine calls one ſort of it, *Cichorium latifolium, ſive Endivia vulgaris*; another, *Endivia criſpa.* Dodonæus terms it, *Intybum ſativum.* It is not known where Endive naturally grows.

CHAP. XVI.

COCHLEARIA ARMORACIA, HORSE RADISH.

Culture of Horſe Radiſh.

IN order to have good Horſe Radiſh, the ground ſhould be exceedingly rich and moiſt, and the ſoil naturally deep; for although it will grow in almoſt any ſoil, yet in ſuch alone can it be expected to be in full perfection. It will grow at all times of the year, though Horſe Radiſh beds ought to be made in the autumn, winter, or early in the ſpring. The preparation of the ground is only double digging it, and laying the ſurface level and ſmooth; and with regard to the plants, every bit of Horſe Radiſh will do for the purpoſe, if there is but a bud or eye to it. The tops of the Horſe Radiſh that has been already uſed are admirable plants for the purpoſe; and thoſe ſmaller off-ſets or ſide-ſhoots alſo which are too frequently thrown away, may be brought into uſe this way: So that when a perſon is deſirous of having a freſh Horſe Radiſh bed, without diſturbing his old beds otherwiſe than as the plants are obliged to be drawn for uſe, it will be adviſeable for him to ſave the tops and off-ſets from time to time; which he may do by covering them with mould in ſome part of the garden, and when he has a ſufficient quantity, then to proceed to plant his bed thus: Draw a line on the outſide of the bed the whole length, and by this ſet your plants, if they are ſtrong ones, fifteen inches diſtant from each other; if they are rather weak, ten or twelve inches will be ſufficient. Let them be ſet eight inches in the ground with the buds upright, and having covered them well over, the firſt row is compleated; in like manner proceed to a ſecond row two feet from the firſt, then to a third, and ſo on until the whole ground is planted, leaving a ſpace between the rows of two feet, which will not be too far if you would have your Horſe Radiſh moſt perfect.

When the plants come up, keep the ground clean from weeds, and in a little time they will make this buſineſs unneceſſary. If any flower-ſtalks ariſe, cut them off; and that is all the trouble the plants will require until they are taken up for uſe, which ought not to be before the winter twelve-month after planting.

Titles. Horſe Radiſh is titled, *Cochlearia foliis radicalibus lanceolatis crenatis, caulinis inciſis.* Caſpar Bauhine calls it, *Raphanus ruſticanus*; Dodonæus, *Raphanis magna*; Tournefort, *Cochlearia folio cubitali.* It grows naturally in Northumberland, and ſeveral other parts of England and Europe. It uſually occupies the ſides of ditches and running waters, which teaches us always to afford it as moiſt a ſituation as poſſible.

CHAP. XVII.

CRAMBE, SEA COLEWORT.

Remarks. THE Sea Colewort is now preferred by many, as an eſculent, to moſt of the ſpring productions. It has not been many years introduced into the Garden for Kitchen uſe, but has been long known to the inhabitants who live near the ſea, where the plant grows naturally, and who gather it in the ſpring as ſoon as ever, or before it comes up; which they know by the riſing of the ſand which the ſhoots occaſion, as they are ready to appear; and being cut ſo early even within the ground, they are of a more delicate ſweetneſs, which they loſe by degrees, and become tough after they have been expoſed to the open air.

Culture. In order to propagate this ſort for uſe in our Gardens, let a ſpot of ground be double dug in the autumn; and if it be light, ſandy, or gravelly, it will be the better: On this ſow your ſeeds in drills, two feet aſunder; and when the plants come up, draw out the weakeſt, leaving the others at a foot diſtance from each other. All ſummer keep the plants clean from weeds, and in the winter dig the ground between the rows. The ſummer following let weeding be obſerved, and the plants will be grown ſtrong, and ſpread pretty much by the autumn. The ſpring following the heads will be fit for uſe; ſo that in the winter the beds ſhould be covered over with about four inches depth of mould; and if it be ſand or gravel, it will be better than common earth. As the plants make their appearance at the top of the ſtratum, remove the contiguous parts, and cut the young ſhoots four or five inches deep, and they will be tender, finely blanched, and of exquiſite ſweetneſs.

CHAP. XVIII.

CUCUMIS SATIVUS, The CUCUMBER.

General obſervations. THERE is no plant that ſeems more peculiarly adapted to the hotbed than the Cucumber; there is no plant that better diſcovers the utility and the power of that compoſition; neither is there any plant that has cauſed more emulation among Gardeners to bring the fruit of it the earlieſt to perfection. With good management, it may be had at all times of the year; and in the proper exerciſe of this many a Gardener values himſelf, and places the knowledge of it amongſt the moſt valuable acquiſitions of his art.

It is not certain in what part of the world the Cucumber grows in a ſtate of nature; though it has been known to the earlieſt times, and its cooling and refreſhing quality has been experienced in all ages.

The Iſraelites of old were enamoured of this fruit; and if we conſider the extraordinary ambition of many to have it at a ſeaſon when it cannot poſſibly be very wholeſome, we ſhould think that they fall little ſhort of thoſe Patriarchs in their veneration for this plant.

A Cucumber in winter is a great nicety; but the nature of it teſtifies that it ought to appear at a different ſeaſon. It may with ſome conſtitutions ſuit a piece of roaſt beef well at Chriſtmas; but a piece of Horſe-radiſh at that ſeaſon lays in its claim, demands a right to the precedence, and has arguments enough to prove that it ſuits it better.

To every thing there is an appointed time, and an appointed ſeaſon; and the accelerating or protracting the time of ſuch of the vegetable tribe, as is agreeable, that we may have it the longer in uſe, is the nice art of Gardening. The Cucumber, of all the plants in the garden, is moſt certainly deſigned for ſummer uſe: But as it is become a practice by many rather to diſdain it at that ſeaſon, and to pride themſelves on in having it at their tables in the winter and ſpring months, I propoſe giving directions for raiſing Cucumbers at all ſeaſons of the year, ſo that they may be brought to table at any deſired time.

There is only one real ſpecies of the Cucumber, which varies very much by culture; inſomuch that we have in our gardens many valuable and tolerably permanent varieties, which are of different degrees of tenderneſs, and conſequently rather more ſuited for the different ſeaſons of the year.

Principal ſorts of Cucumbers.

The principal ſorts of Cucumber are,

1. The Short Prickly.
2. The Long Prickly.
3. The White Prickly.
4. The White Turkey.
5. The Green Turkey.

The two firſt ſorts are hardier than the others, and are always uſed for the winter and ſpring crops.

And as theſe are the crops on which the Gardener places the greateſt value in his art, I propoſe giving the method of raiſing them diſtinctly; ſo that every one, by obſerving the rules to be laid down, may not be at a loſs to raiſe Cucumbers for the table at any time in the winter ſeaſon.

General directions for raiſing a Winter crop of Cucumbers.

The firſt requiſite to obtain Winter Cucumbers is to have good ſeed; and this reſpects all the crops, whether Winter or Summer. It ought to be collected from the largeſt, the faireſt, and the earlieſt fruit; it ſhould be well preſerved, ſhould be bright and dry, and ought to be two years old at leaſt, before it is uſed.

The next thing to be conſidered is the place for the beds. This ought to be in a warm, well-ſheltered place, and full to the ſouth ſun; it ſhould be encloſed with a reed hedge; and the nearer it is to the ſtables the better.

The third article to be regarded is the ſoil to cover the beds, and receive the ſeeds. This ought to be a good fat earth, ſuch as the Melons or Pine Apples delight in; ſo that where earth is prepared for theſe fruits, a ſhare of it may be ſpared for the Cucumber-beds: And for want of this, good rich mould from a well-managed part of the Kitchen Garden that has been well-dunged the year before, may be ſufficient.

Dung is another and the chief requiſite for raiſing Cucumbers. This ſhould be brought from the ſtables, and laid on an heap twelve days, at leaſt, before it is uſed. There ſhould be a conſiderable deal of litter with the ſmaller parts, in about the ſame proportion as it generally comes out of the ſtables when they are what is called *farmed.* As it is laid down in the heap, a buſhel or more of coal-aſhes ſhould be added to each cart-load of dung: Theſe ſhould be well mixed, or incorporated with it as it is laid down; and the heap, in the courſe of the twelve days it is to lie before it is made into the hotbed, ſhould be turned over four times; after which it will be in proper order to compoſe the hotbed.

No leſs than three hotbeds will be required in the courſe of this work; and previous to the making of every one of them, the dung muſt be brought from the ſtable twelve days before, that it may be in proper order for the purpoſes for which it is intended.

If the Cucumbers are deſigned to be ready by Chriſtmas, or ſoon after, the ſeeds ſhould be ſown in the beginning of October; if they are intended to be produced in February, the middle of November will be the proper time for ſowing them; and if the owner is content with having them later, the beginning of January is a good ſeaſon to ſow the ſeeds.

It is much eaſier to have Cucumbers at Chriſtmas than later; and it is much eaſier to have Cucumbers in April than earlier. Of late years, the mildneſs of our firſt winter months has been ſo great, that plants might have freely any deſired quantity of air, and have wanted only to be gently forced along with a moderate degree of warmth to perfection; and when they are deſigned for ſpring crops, the advantages the plants will receive from the ſun in long days are great; they become amazingly enlivened, and their fruit is ſpeedily and with more certainty brought forward.

I will therefore fix on a crop to come in in February, and the directions for raiſing it will anſwer for others that are either ſooner or later; only, that for this ſeaſon they will require more nurſing, and cloſer attendance, than thoſe raiſed in more favourable ſeaſons.

About the middle of November prepare a moderate hotbed of the beforementioned ſort of dung that has been brought from the ſtables twelve days, and has had proper turnings. Lay the dung about two feet and an half thick, and proceed in the uſual way of making hotbeds, by placing the largeſt parts at the bottom; the others regularly, evenly, and cloſe; and the ſmall ſtuff at the top: Let the length and breadth be only ſuch as two lights will cover; for ſuch a bed will be large enough to raiſe plants ſufficient to anſwer any purpoſe in that way. Immediately place the lights over them to protect them from rain, ſhould it happen; raiſe the glaſſes to let out the ſteam; and in two days cover the bed with about four inches depth of mould. At the time of doing this, let a ſufficient number of pots be filled with the fineſt mould, and let them be plunged up to the rims in the mould of the bed; for in theſe pots the ſeeds are to be ſown. Having thus ſtationed the pots up to the rims in the mould of the bed, draw down the glaſſes, and raiſe them only ſufficiently to let out the ſteam; and in two days time the mould in the pots and on the bed will become warm, and will then be in a proper condition for the reception of the ſeeds.

In ſowing them, ſtir the ſurface of the earth in the pots, then place the ſeeds in them, and add more earth over the ſeeds to the pots, that the ſeeds may be covered half an inch with this fine mould: Then raiſe the pots a little, and draw the mould up to the rims, and even over the rims, forming as it were a circular ridge over the top of each pot. This being done, ſhut down the glaſſes; but raiſe them again occaſionally a little to let out the ſteam; the mould will ſoon become very warm, and in about eight days the plants will come up. When they have got two leaves, they are to be tranſplanted into other pots. The number of pots ſhould be according to the number of lights you are to fill, allowing three pots to each light; for each pot is finally to contain but one plant, and three plants is the proper number to be placed under any one of the lights. The pots ſhould be filled with the fineſt rich mould; and previous to the reception of the plants, they ſhould be plunged up to the rims in the mould of the hotbed to warm: Then the young plants are to be taken up with the greateſt care, and two or three plants are to be ſet in each of the new pots; at the ſame time giving them a ſmall watering, to ſettle the mould, with water that has been placed in the bed ſix hours. As ſoon as this removal is performed, ſhut down the glaſſes; and if the weather is clear, ſo that the ſun is likely to ſhine out, cover them with mats, that the plants may be ſhaded until they have taken root. Repeat this watering every day; let them have but very little at a time, and always let it ſtand in the bed five or ſix hours, that the chill may be taken off before it is uſed. Add a lining of freſh dung to the bed a foot thick, and carried up to the whole height of the bed; beat it very cloſe, and it will give freſh warmth to the bed, and greatly accelerate the growth of the young plants. In a few days you will find them well eſtabliſhed, and ſhow good ſigns of growth; the weakeſt plants are to be taken out, and one plant only, that is the ſtrongeſt and moſt promiſing, is to be left in each pot.

In this bed they may ſtand a month, when they will call for the ſecond hotbed; and require to be ſhifted into larger pots. This bed ſhould be made in the ſame manner as the former; only raiſed, as we are now further advanced in winter, half a foot higher. The pots alſo being to be larger, will call for it to be of greater extent; ſo that it muſt be now at leaſt long enough (for the breadth muſt always be the ſame) to contain three lights, in order to find room enough for the plants, in their now larger pots, to grow and flouriſh.

Having made the bed, place on the frames and glaſſes to keep it from the rain, and let it lie three days before the mould is put on; raiſe the glaſſes to let out the ſteam; and at the end of that time, cover the whole bed with five inches depth of any common mould: Then fill the pots with the fineſt rich mould for the plants; plunge them up to the rims in the mould of this bed; and the next day they will be duly warmed to receive the new plants, which being in pots before, may be removed into theſe without any check. A ſufficient quantity of the warmed mould muſt be taken out of the large pots, that there may be room enough for the ball of earth and the new plants turned out from the ſmall pots. With the ſtricteſt care, therefore, turn each plant out of its pot, with the ball of earth to the root; place it in the center of the larger pots, and gently fill up the ſides with the warmed mould that had been taken out. When the whole number of plants is removed in this manner, water them a little, and ſhut down the glaſſes; but as the ſteam at this time will ariſe in prodigious quantities, they muſt be ſoon raiſed to let it out: They muſt be alſo turned and wiped with a woollen cloth; and if you find the bed heats very violently, which you may know by thruſting in your finger, raiſe the pots a little; becauſe if their bottoms are over-heated, it will ſoon much prejudice, if not totally kill your plants.

In this bed they are to ſtand about three weeks, by which time they will be in proper order to remove to their next hotbed, where they are to remain and bear fruit.

During the time of their ſtay in the ſecond hotbed, the ſteam muſt be let out, and air muſt be admitted with the greateſt caution. A piece of mat ſhould always be hung before the opening, to prevent the cold from ruſhing in upon the plants; and the opening muſt be always on the contrary ſide to that on which the wind blows. In nights the beds muſt be covered up with mats, and in all cold weather; and if theſe particulars are duly attended to, your plants will be healthy, of a good colour, and in right condition for their removal into their next lodging.

In this they are to occupy a large range of hotbed; every three plants are to fill a light; ſo that it may be carried out in length according to the number of plants you have got, or would chooſe to propagate further. The beds are to be made in the ſame manner as the others, and a ſtratum of old cow-dung ſhould be ſpread over it about an inch thick: The frames ſhould be then put on, the glaſſes ſhould be let down, and thus it ſhould lie to warm about three days; at the end of which time bring on the mould, and place under each light three heaps, each being a foot in height. Theſe heaps are to receive the plants; ſo that they ſhould be placed along the middle of the bed at equal diſtances from each other and the ſides of the frames: After you have thus placed your heaps, cover the reſt of the bed with about three inches depth of mould; then ſhut down the glaſſes, but raiſe them again a little, three hours after, to let out the ſteam; and by the next day the mould will be ſufficiently warmed, and of proper temperature to receive the plants.

At the top of each heap make an hole with your hand large enough to receive the root of the plant with the mould about it; then turn the plant out of the pot into your left hand up-ſide down, taking care to open the fingers ſo that no part of the plant be bruiſed. The mould of the whole pot will thus be on your hand; and having laid aſide the pot with the other hand, place the mould in the hole of the hill, drawing the mould up to the ſides; and in this manner proceed until all the plants are removed out of the pots, and ſet on the tops of the hills: Then give them a moderate watering with water that has been ſix hours in the bed, draw down the glaſſes, but raiſe them again occaſionally to let out the ſteam, and admit the air as uſual. Cover the glaſſes well down with mats in nights; and all cold weather and thus they will be protected from receiving any injury from that quarter; every day, about noon, they ſhould have air granted them, if poſſible; they ſhould be watered with the like kind of water as before; and you will ſoon find your plants making conſiderable progreſs in their growth.

During this time, at intervals, freſh mould is to be brought to the bed. It is to be firſt laid on that part of the bed that is leaſt covered; and when it is warmed, is to be drawn up to the ſides of the hills. This work muſt be repeated until the whole bed is filled with mould a foot thick.

The reaſon for bringing it in by little at a time is, that it may be freſh for the roots to ſtrike into, and becauſe too large a quantity of it at a time would damp the bed: And this teaches us alſo to keep the mould for this purpoſe under cover, leſt heavy rains falling upon it juſt before it is wanted, it be rendered wet, and unfit for the purpoſe.

Give the plants during this time all poſſible air, as the weather will permit; frequently give them water, but let them have little at a time; direct the ſide-branches in the courſe they ought to take; let them be perfectly free, and at equal diſtances from each other; and in order to continue them ſo, let them be pegged down to the beds. In doing this, take care you do not bruiſe them, or wound the bark of the ſhoots; and as they advance in length, more pegs may be added, to keep every thing clear, and in good order.

The plants will ſoon come into flower; and now is the time to line the bed with new dung to quicken the heat, and cauſe the fruit to ſet well. Great care alſo muſt be taken to let them have more air than common, if the weather will allow it; likewiſe to afford the plants rather more water at a time. The due regulation of all theſe particulars is eſſentially neceſſary for the right ſetting of the fruit; and for want of it the bloſſoms drop off, and come to nothing.

It is become a cuſtom, when the flowers are in full blow, to take off the male flowers, and whelm them upon the female, ſticking them with the finger, that the farina may impregnate the female parts of generation. To the practice of this method is attributed the very fruitful crops of late years in our beds. For want of whelming the male on the female flowers, it is ſaid, the fruit drops off; and formerly very little of it could be brought to perfection. I think it might ſtand better thus: For want of that knowledge among former Gardeners which now almoſt every working Gardener is maſter of, the fruit had uſed to drop off, and very little of it could be brought to perfection; but ſince the improvements made in the art, we have great crops, &c. and we need not wonder that crops in general ſhould have failed, until long experience had found out, and confirmed the preſent practice in the management of theſe plants. Too much moiſture will cauſe the bloſſoms to fall off, and too little will do the ſame; too much air, as well as too little, will in like manner render your hopes abortive; nay, too great a warmth, as well as too much cold, will cauſe deſtruction to the whole bed. The right management of the whole proceeding, then, is the due temperature of all theſe; and whenever this is obſerved, there will not fail to be a good crop of Cucumbers, whether the male bloſſoms are whelmed upon the females or not.

When the fruit is ſet, the whole bed ſhould be regularly watered. It ſhould be done by ſprinkling all over the plants, which in a few days after will be grown to a ſize fit for the table. A few of the earlieſt near the ſtems may be ſaved for the ſeeds, if you chooſe it, whilſt the others may be gathered for uſe. This fruit will come in, if the time of ſowing the ſeeds and method of management be duly obſerved, by the end of February or the beginning of March, and there will be a ſucceſſion from the ſame bed until the later crops advance: Nay, if you chuſe to enlarge the bed by adding a freſh breadth of hot dung on each ſide, covering it with mould, raiſing the glaſſes to let out the runners, and protecting them from cold, they will extend themſelves, will continue to ſhoot vigorouſly, and afford you a ſucceſſion of fruit during the beſt part of the ſummer.

But if this method is practiſed, it ſhould be with a crop that has been raiſed later in the year, that the runners, by ſuch time as they require to be let looſe from their frames, may have fine weather to ſport in, and be in no danger of ſuffering from inclement ſeaſons.

After all, Winter Cucumbers are beſt raiſed in a ſtove; and indeed that is the only way to have them completely wholeſome and good. All unhealthy vapours and pent-up air, which muſt neceſſarily attend the hotbed in very cold weather, will not be found in the ſtove; they will be diſſipated by the fires, and the air be kept wholeſome and pure. The temperature of the air will be alſo kept more equal, and in greater quantity; and what ſun happens, may almoſt at any time be thrown upon the plants; all which greatly tend to quicken the fruit in its progreſs, and by diſſipating all crude and unhealthy vapours, muſt render it well-taſted and wholeſome. Whoever, therefore, is deſirous of raiſing any conſiderable quantity of Winter Cucumbers, and to continue the practice annually, the beſt way will be to erect a ſmall ſtove (ſuch as is recommended for the Pine Apple plants) for the purpoſe. The firſt expence will be all; it will laſt for years, if not for ages; and the trouble attending the plants here will be ſo little, and ſo much expence of labour, attendance, &c. ſaved, that it will abundantly recompenſe for the extraordinary expence a ſmall ſtove will firſt coſt over and above the expence of the frames and glaſſes. And theſe, together with the advantage of having the beſt fruit, are motives enough for every one who has opportunity, and is deſirous of carrying on gardening in any tolerable extent, to put this method into practice.

Raiſing Winter Cucumbers in ſtoves recommended.

Their culture there.

The ſeeds ſhould be ſown in pots, either in October, November, December, or January, according to the time you would chooſe to have the fruit ripe. Theſe pots ſhould be immediately plunged up to the rims in the bark-bed, and in about ſix or ſeven days the ſeeds will come up. They muſt be watered; and when they are tolerably ſtrong, they ſhould be removed into larger pots, to remain there with due air and water about three weeks; and then be turned out with the mould at the roots into larger pots or boxes, there to remain to flower and fruit. The beſt way will be to plant them in boxes, which ſhould be ſunk about three inches deep into the tan-bed. As they ſend forth runners and ſide-branches, direct them in their courſe, keep them perfectly clear of each other, be regular in your watering, and give them but little at a time; cover the glaſſes with the ſhutters and cloths, and keep the fires up in all very hard froſts, and in very foggy damp weather; grant them a due admiſſion of the air, whenever the ſeaſon will permit; and in a very little time, and with little trouble, you will have Cucumbers in as great perfection as their nature will admit of at that ſeaſon.

They will do very well, if the ſeeds are ſown in the boxes at firſt, theſe being plunged about three inches deep for the purpoſe, without ever being removed. The plants alſo, if the tan-bed is not in readineſs, may be raiſed on a common hotbed, and afterwards tranſplanted into the boxes in the ſtove. They may be alſo raiſed in pots in the ſtove among Pine Apples and other tender plants, where they may be trained through their two firſt degrees of management; and afterwards, as they grow too large for ſuch a place among other plants, they may be removed into a hotbed, which ſhould be the ſame as the third hotbed before directed, in order to flower and fruit, where their management ſhould be the ſame as in the former caſe.

Cucumbers may be alſo raiſed in boxes placed on the flues in the ſtove, and in the dry ſtove; and thus eaſily, where there are theſe conveniencies, may this fruit be brought to table at any deſired time of the year.

Early Melons alſo may be obtained in the ſame way; ſo that our ſtoves may be not only made to anſwer matters of curioſity reſpecting exotics and tender plants, but they may be alſo made ſerviceable in bringing the tender contents of the Kitchen Garden to perfection earlier than it can be obtained any other way, and cauſe its produce to be more wholeſome and good.

Of Summer Cucumbers.

This is the crop that is with good reaſon moſt univerſally raiſed; which is generally performed by ſowing of the ſeeds on an hotbed in the ſpring, and when the plants come up giving them air and water at times, and then letting them remain until they flower and fruit. But this is a poor method of raiſing Cucumbers: The quantity to be obtained by it will be very ſmall; ſo that when the family is large, or they are raiſed for ſale, a general and more ſucceſsful method of raiſing them muſt be practiſed.

Method of raiſing them.

In order, therefore, to raiſe a large quantity of Cucumbers to come in for ſummer uſe, let a hotbed be prepared in the uſual way by the middle of March, and when it is in temperature ſow the ſeeds. Theſe will come up in about a week; and when their two leaves are fully expanded, they ſhould be tranſplanted to a ſecond hotbed. Theſe two hotbeds need be but very ſmall: One light will be ſufficient for the firſt, and about two lights for the ſecond; let the quantity of plants wanted be almoſt what it will; for in this ſecond hotbed they need not be planted out at a greater diſtance than about two inches from each other. As ſoon as they are planted, give them a moderate ſprinkling of water, ſhut down the glaſſes, and ſhade the plants with mats when the ſun ſhines hot, until they have taken root. In nights they muſt be defended from cold with mats; in the day-time air muſt be allowed them as much as the weather will permit; the glaſſes muſt be wiped and turned as often as the condenſed vapours make it neceſſary; and your plants will ſoon ſhew ſigns of health and good growth.

As the days grow long and the weather warmer, they ſhould always have more air and water accordingly; and by about the middle of April they will be in the rough leaf, and be fit to ſet out in the place where they are deſigned to flower and fruit.

This muſt be on a hotbed of a different conſtruction; and the weather being now too cold to permit the plants to live abroad in it freely, a ſufficient quantity of bell or hand-glaſſes muſt be provided for their defence.

Againſt the time, therefore, that the plants are to be ſet out, let both be in readineſs; let the glaſſes be at hand for immediate uſe; and let the dung have been brought from the ſtables, mixed with coal-aſhes, and laid on a large heap to ferment as before. The dung muſt be in proportion to the quantity of fruit to be raiſed; and the manner of uſing it is thus: Open a trench a foot deep, and three quarters of a yard wide, and continue it to any deſired length; in this trench work your dung in the ſame uniform and regular manner as uſual. This hotbed will be narrow, and need not be very high; for a good cart-load will be ſufficient to carry it ſix yards in length.

Having thus filled your trench, and prepared your long, narrow hotbed, holes ſhould be made the whole length, at the diſtance of a yard and a quarter from each other. Theſe holes ſhould be half a foot deep, and nine inches in diameter; and in them the fineſt rich mould is to be placed for the reception of the plants; while any of the common mould, that was thrown out of the trench, may be ſufficient to cover the reſt of the bed. The mould ſhould be laid about three or four inches thick; and it ſhould be made to ſlope down to the ground; and cover the hotbed in ſuch a manner that no appearance of a hotbed may be ſeen; it ſhould ſeem only to be a long ridge of earth raiſed for ſome convenience in the garden. And if very large quantities of Cucumbers are wanted, and many of this kind of hotbed are to be made for the purpoſe, they ſhould be ſtationed at about two yards and an half from each other; and being thus covered with mould, they will have a regular look, and will reſemble the ridges of land formed by ſome notable farmers in the management of their well-cultivated fields.

The holes are to be made in all the others, as in the firſt ridge; and in theſe holes, now made level, the plants are to be ſet. Previous to this, the glaſſes are to be ſet over the holes; each glaſs ſhould be ſet over its hole, as ſoon as it is filled with the mould; the edges ſhould be well preſſed down; and by the next day, or the day after, the mould will be in proper temperature to receive the plants.

In order to this, let the top of the mould be firſt taken off; then take up every plant from the hotbed with a ſcooping trowel, the more effectually to preſerve a ball of earth to each root; and this will with greater certainty be performed, if the plants about ſix hours before had a moderate watering. As you take them up, ſet them in the holes, gently preſſing the mould to the ſides and roots. Four plants ſhould be aſſigned to each hole, and they ſhould be ſet at an equal diſtance from each other. As the holes are thus planted, give the plants a moderate watering, and whelm the glaſſes over them. From this time they muſt be ſhaded until they have taken root; the glaſſes ſhould be raiſed on one ſide a little about noon, which ſhould always be on the contrary ſide to that on which the wind blows. They muſt be frequently, though very ſlightly, watered; and in cold froſty nights, which often happen at the end of April, or the beginning of May, the glaſſes muſt be wholly covered. As the days get warmer, they ſhould accordingly have more air. When fine mild ſhowers happen, the glaſſes ſhould be wholly taken off, and when the plants are ſufficiently refreſhed, ſhould be directly placed on again: And this is their general management until they are grown large enough to fill the glaſſes. When you find this, they muſt be raiſed with bricks, and about the firſt week of June the runners may be let out to take their courſe. Keep the glaſſes, however, elevated over the crowns of the plants at the height of about nine inches; and on ſome evening, or on a moiſt day, direct the runners in the courſe they are to take. In about a fortnight after, let the ground be dug next to the ridges for a yard in breadth on each ſide. Let the ſurface be made level, and as the runners advance, place them regularly on this ground, ſtationing them at as equal a diſtance as poſſible from one another, and confining them with pegs to ſecure them from being incommoded by the wind. During the whole courſe of this training, water them frequently, tho' never when the ſun ſhines hot upon them; let them have but little at a time; let it be done by ſprinkling the whole plant; and when they come into bloſſom the ſprinkling ſhould be more ſtrictly attended to, and they ſhould have it in rather larger quantities.

After this the fruit will ſoon ſwell, and be fit for uſe; and there will be a ſucceſſion of them from theſe beds until the end of ſummer.

Of Picklers. There is no very great difficulty in raiſing Late Cucumbers, or Cucumbers for Pickling; neither is it attended with any great trouble. No hotbed is required for the purpoſe. They ſhould be ſown in the ſummer, and they will ſport in the open ground, without danger of ſuffering from inclement ſeaſons, until they have rewarded your diligence with their abundance.

Culture. The laſt week in May is the beſt time to ſow the ſeeds. The ground ſhould be rich, and well dug; holes ſhould be made in form of a baſon, at a yard and a half diſtance from each other; the mould ſhould be made fine in the holes eſpecially, and in theſe ſhould the ſeeds be ſown. Ten or a dozen will be ſufficient for each hole. They ſhould be placed at a ſmall diſtance from one another, and ſhould be covered with about half an inch depth of mould.

If the weather ſhould be dry, give the holes a ſmall watering at the time of ſowing the ſeeds; and if it ſhould continue ſo, water them every third evening. The plants will come up in about a week; and juſt before that, place over the hole ſome furze-buſhes, or any kind of cover, to conceal them from the birds, which would deſtroy them on their firſt appearance. When their two leaves are wholly expanded, there will be no danger of ſuffering from that quarter, and then the covering may be removed.

When they are got into the third, or rough leaf, the weakeſt ſhould be all drawn out except four, leaving only that number in each hole or baſon. At this time draw up the mould to the ſtems of thoſe remaining, and preſs it tolerably cloſe. If dry weather happens, frequently give the plants water, and draw the external mould to the edges of the holes to make the cavity larger, the more effectually to detain what moiſture may happen.

Direct the runners in their courſes, as often as you find it neceſſary; peg them down to prevent their being diſplaced by the winds; keep the whole clean from weeds; and this is all the trouble they will require.

By the beginning of Auguſt they will produce good fruit for pickling. Theſe ſhould be gathered in mornings, and uſed ſoon after, not keeping them, as is too often practiſed, until more can be obtained to pickle with them. Such pickles can never be expected to be good; and as it is neceſſary to have a quantity pickled together ſoon after they are gathered a large ſhare of plants ſhould be raiſed for theſe uſes, ſo that they may afford any deſired number at a given time. There will be a ſucceſſion of picklers until the froſt ſtops them; during which time ſome of the fineſt may be permitted to grow larger for ſlicing, ſhould they be wanted at that ſeaſon.

Of raiſing Cucumber ſeed. Thoſe who are moſt curious in their Early Cucumbers, ſave the ſeeds for that purpoſe from the winter plants, or thoſe that were brought forward in the ſpring; though the generality of Cucumber-ſeed is ſaved from thoſe plants that have been ridged out in the open ground to be raiſed in plenty for ſummer uſe. In either caſe, the firſt and the fineſt fruit is to be pitched on. One only ſhould be left on a plant; it ſhould be that which grows neareſt the root; and, to prevent its being gathered, it would be adviſeable to tie a piece of coloured yarn or worſted round the ſtalk for a mark. The number of thoſe thus marked, and ſet apart for ſeeds, ſhould be in proportion to the quantity wanted, and a tile or ſlate ſhould be placed under each to keep it from the ground. When the plants are ſprinkled, care muſt be taken not to wet thoſe fruit; and when they are perfectly ripe, which is ſeldom before the end of Auguſt, gather them, and expoſe them in the ſun for a week or longer in a dry place. After this open them lengthways, and take out the ſeeds with the pulp; put them into a tub, ſtir them every day, and when the pulp is well rotten, ſeparate it from the ſeeds by putting water into the tub, and ſtirring it about; then ſpread them upon paper, and turn them every day; as the paper becomes wet, afford them ſome freſh ſheets, and continue this until the ſeeds are dry. When you find this, put them into paper bags, to be hung up in the ſeed-room, to be ready for uſe.

The ſeed ought to be three years, at leaſt, before it is uſed; on which account the bags ſhould be made of white paper, the kinds marked, and the date of the year when they were gathered, to direct the gardener to the right ſeed for his purpoſe.

Titles. The Cucumber is titled, *Cucumis foliorum angulis rectis, pomis ovato-oblongis ſcabris.* Caſpar Bauhine calls it, *Cucumis ſativus vulgaris*; and Dodonæus, *Cucumis vulgaris.* The place of its natural growth is not certainly known.

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C H A P. XIX.

CYNARA, ARTICHOKE.

THIS genus comprehends two very celebrated ſpecies of our Kitchen Garden produce, viz.

Species.
1. The Artichoke.
2. The Cardoon.

The culture of both theſe ſhall be exhibited under their ſeparate heads.

I. *Cynara Scolymus*, Artichoke.

There are two ſorts of Artichokes cultivated in our gardens:

Sorts of Artichoke.
1. The Old Green, or French Artichoke.
2. The Red Dutch, or Globe Artichoke.

The latter of theſe is preferred before the former, though both are cultivated by thoſe who love variety of Kitchen Garden produce. Their management is exactly the ſame.

Culture. In order to have a bed of one or both of theſe Artichokes, let the ground be double dug againſt the laſt week in February, or the firſt in March, and let the ſurface be made level and ſmooth. The ſituation ſhould be well defended; for the plants are very liable to be deſtroyed by ſevere winters. They love a moiſt ſoil; tho' in ſuch a ſtation it is great odds but they go off a winter or two after being planted. If you plant them on a dry undunged ſoil, they will remain for years in ſpight of all weather, and their fruit will be of an heightened flavour; but the heads will be ſmall, and inſignificant. If, therefore, you think the perfection of Artichokes conſiſts in their ſize, and the quantity of meat each head will afford, let them be planted in a moiſt, rich ſoil; and let a plantation be made every ſpring, if you regard the delicacy of the flavour more than the ſize of the heads. Let the ſoil be freſh, dry, and light, but by no means over-dunged; and this ſituation will ſave you great trouble in raiſing freſh plantations of Artichokes; for with proper management they will produce fruit, and continue to do ſo many years.

In either caſe, the ground muſt be dug full two ſpades deep. Any time about the end of February, or the beginning of March, as the weather ſuits, is the moſt proper ſeaſon to make the plantation. Off-ſets ſhould be taken with care from ſome old roots for the purpoſe; which off-ſets ſhould be thoſe that are tender and criſp, in oppoſition to the tough and ſtringy kinds, which are good for nothing. The part where they grew to the old root ſhould be cut off; the outſide leaves ſhould be ſhortened, leaving the inſide ones to ſtand uppermoſt, and they will be then ready for planting. In order to this, draw lines five feet from each other, if the land be rich and good, and a quantity of rotten dung has been worked into the bottom of the trench; which is the general practice. If the land be only common garden mould, let the lines be only four feet from each other, and in theſe lines ſet your plants two feet aſunder; about four inches is the depth each plant will require to be ſet in. The mould muſt be well cloſed to the roots, and good watering muſt be afforded them; which muſt be repeated every other morning, if the weather proves dry, until they have taken root.

Having thus planted your Artichoke-bed, let us now accompany it in its after-management. And for this, keep the ground conſtantly clean from weeds, and about the beginning of May dig the ground between the rows. This will invigorate your growing plants; and when the young fruit appears, the rows ſhould be dug between them again, if you have a mind to have your Artichokes in the height of perfection. Theſe Artichokes will be ripe in Auguſt or September; and the fruit from theſe new plantations will be much finer-flavoured than thoſe which are produced from old roots.

Let us now proceed to the next management of theſe plants. And for this, in November dig between the rows of the Artichokes, taking care not to diſturb their roots, and lay the earth up to the plants, forming a ridge along each row. Hard froſts are deſtructive to them; and this ridged earth will be a ſhield againſt it: But if you find the weather to ſet in very ſevere, an additional guard muſt be granted the plants, by covering them with peaſe-ſtraw, or ſome light covering, but not with long dung or litter from the ſtables, as is too often practiſed. This covering, let it be what it will, on the return of fine weather ſhould be immediately taken away. About the end of February, or the beginning of March, your plants will call for the third degree of management, called, Dreſſing them; for by that time they will be growing through the ridges; and then is the moſt ſuitable ſeaſon for the purpoſe.

In order to this, the ground muſt be well cleared away from the roots, to examine their ſtate; and when there are found more eyes than two, they muſt be rubbed off. The two eyes or ſhoots that remain ought to be the loweſt, the fartheſt from each other, and the tendereſt; and the fruit they will afterwards produce, will be fuller of meat, and better flavoured. Having thus diſpoſed theſe two remaining ſhoots at as great a diſtance as poſſible from each other, and drawn the earth well about them, finiſhed the others in the like manner, and neated up the beds, the buſineſs called Dreſſing is over. At this time the ſhoots that are taken from theſe roots may be uſed to form a new plantation: And, indeed, this will be highly neceſſary, if you would chooſe Artichokes throughout the whole ſeaſon; for the old beds will produce their fruit early in the ſummer; and thoſe beds that were formed in the ſpring will afford fruit to ſucceed them until the end of autumn.

In the ſummer, when the plants firſt ſhew their fruit, all ſuckers ſhould be taken off, and alſo the ſide-branches of the ſtalks; for, by leaving one fruit only to terminate one ſtalk, it will be proportionably larger and finer. In gathering your Artichokes, it will be beſt to cut the ſtalks down to the ground; and when all the fruit is gathered, the beds may remain unnoticed until the return of the November management.

II. *Cynara Carduncùlus*, Cardoon.

Cardoon.

The Cardoon is another ſpecies of the Artichoke, but requires a very different management; for it is the blanched ſtalk of the plant that is coveted.

It is eaſily raiſed by ſowing the ſeeds in March on a bed of light, rich, freſh earth. Where the plants come up too cloſe, thin them; water them in dry weather; keep them clean from weeds; and when they have got five leaves, remove them to a well-prepared bed, planting them in rows a foot diſtant from each other. At this removal water them well, and continue it every evening until they have taken root; keep them clean from weeds, and then let them remain until the middle or latter end of June.

Its Culture.

About that time let a piece of rich, moiſt ground be in readineſs for their reception; let it be well dug; and let trenches be made, as is the manner practiſed for Celery, at ſix feet diſtance from each other. Let the bottoms be well dug, and in theſe trenches ſet your Cardoons two feet aſunder; water them well at this time, and repeat it every evening until they have taken root, after which they will grow amazingly: During their growth you muſt continue to earth them up, and by the beginning or middle of Auguſt they will be fully grown for blanching.

Method of blanching Cardoons.

The method of doing it is thus: On ſome dry day prepare a ſufficient quantity of baſs ſtrings; then gather together the ſtalks and leaves in the moſt regular and careful manner, and tie them with the baſs within about ſix inches of the top; after that mould up your plants high enough to cover the baſs ſtrings, but not higher, as it would endanger the ſafety of your plants. As they ſtill grow higher, continue your tying up and moulding: And thus will your plants be perfectly well blanched, and very delicate by October. It is a cuſtom among Gardeners to blanch only a few plants at a time, in order to keep up the ſucceſſion the longerr; and if this be obſerved at an interval of about ten days, from one ſingle ſeed-bed a ſufficient quantity of Cardoons may be had throughout the whole ſeaſon.

Of raiſing the ſeed.

In order to raiſe Cardoon-ſeed, a ſufficient number of plants ſhould be ſet out for the purpoſe in a warm ſituation. Theſe ſhould not be blanched; and if the winter ſhould prove very ſevere, it would be proper to cover them with ſome peaſe-ſtraw, or the like, which ſhould be conſtantly taken off on the firſt return of fine weather. In the ſpring dig between the rows, which will not only deſtroy the weeds, but greatly encourage the growth of the plants. In July your plants will be in flower; but it depends upon the after-ſeaſon for your having good ſeeds. If much wet happens, they ſeldom ripen; but if the weather proves dry during the time of their flowering, and through Auguſt, you may reaſonably expect to have good ſeeds in September.

Titles. 1. The Artichoke is titled, *Cynara foliis ſubſpinoſis pinnatis indiviſiſque, calycinis ſquamis ovatis.* In the *Hortus Cliff.* it is termed, *Cynara foliis pinnatis, laciniis ſerratis.* Caſpar Bauhine titles the varieties of it thus: One ſort he calls, *Cynara ſylveſtris latifolia*; another, *Cynara hortenſis aculeata*; and a third, *Cynara hortenſis, foliis non aculeatis.* Cluſius calls it, *Scolymus Dioſcoridis.* It grows naturally in Italy, Sicily, and France.

2. The Cardoon is titled, *Cynara foliis ſpinoſis, omnibus pinnatifidis, calycinis ſquamis ovatis.* Sauvages calls it, *Cynara foliis pinnatis, foliolis oblongis indiviſis, caule ſpinoſo*; Caſpar Bauhine, *Cynara ſpinoſa, cujus pediculi eſitantur*; and Tabernæmontanus, *Scolymus aculeatus.* It grows in Crete.

CHAP. XX.

DAUCUS CAROTA, The CARROT.

Remarks. THERE is ſcarcely a plant in nature that affords greater encouragement for experiments in gardening than the Carrot. From one of the moſt worthleſs and leaſt regarded plants of our fields, it is now become, by good culture, a principal plant in the Kitchen Garden, and is one of the moſt uſeful, beneficial, and profitable eſculents at our table.

For the reader muſt know, that our Garden Carrot is no more than a variety of the common Wild Carrot, that grows ſo plentifully by the ſides of paths, &c. in almoſt every place. It was firſt accidentally obtained from ſeeds of that ſort, and has been continued to be improved for many years in our gardens. It varies in itſelf by culture; but theſe varieties ſo ſeldom happen, and when once obtained are ſo very laſting, that they have induced many good Botaniſts to believe them to be diſtinct ſpecies: Hence we find ſo many ſorts deſcribed by old authors, whilſt one common title ſhould comprehend the whole.

The Wild Carrot, therefore, is the original; and from this, by good culture, we have obtained,

Varieties.
The Orange Carrot.
The Red Carrot.
The White Carrot.
The Yellow Carrot.
The Purple Carrot.

Several other ſorts of various tints might be mentioned, which preſerve their difference chiefly, if raiſed ever ſo often, by ſeeds.

The Orange Carrot is the moſt profitable, and is moſt univerſally eſteemed, though the others are preferred by ſome; ſo that if the Gardener be curious, he ſhould have a few of every ſort: He will thus pleaſe the palates of all, and beautifully garniſh his maſter's table with variety. The method of raiſing them is thus:

Culture. In order to have a good crop of early Carrots, let a piece of rich, but not dunged ground, in a warm and well-ſheltered part of the Kitchen Garden, be trenched and well-ridged in October, and then let it lie expoſed to the different ſorts of weather, as they ſhall happen, until the beginning of January; by which means it will be fine for working. In the firſt week of January, if the weather is open, let the ſpot be well dug, levelled, and formed into regular beds. As ſoon as this is done, if the wind is not too high, ſow the ſeeds with an even hand thereon, rake them carefully in, neat up the beds, and this is a foundation for the firſt crop of Carrots: Their after-care is nothing but keeping them clear of weeds, and hoeing or pulling up the Carrots, where they come up too cloſe. This muſt be done ſoon after they come up; becauſe, if this be omitted, they will ſoon grow weak, and the roots be ſtopped in their growth; ſo that, without this care, you muſt never expect to have them ſo early or ſo good. Three inches will be diſtance ſufficient for the early Carrots; becauſe it is ſuppoſed, when they get to be of any tolerable ſize, they will be conſtantly thinned for the table, taking out the largeſt, and making room for the others to increaſe in bulk.

The weeds muſt be regularly deſtroyed as they appear, or they would otherwiſe greatly annoy the Carrot bed: And this is all that is neceſſary to be ſaid with regard to the firſt crop of Carrots.

In about ſix weeks from the firſt ſowing, let a ſecond crop be ſown in the like manner; but this is more particularly recommended for the ſake of thoſe who are remarkably fond of very young Carrots. Where there is no ſuch predominant deſire, the trouble of raiſing this ſecond crop may be ſaved; for the firſt bed, if it has ſucceeded well, will have plenty of Carrots for the ſupply of the table, until the general crop in the larger beds comes into uſe.

The third ſowing, or the general crop for ſummer uſe, ſhould be made the firſt or ſecond week in March. The ground ſhould have been trenched, and lain ridged all winter, and at the time of preparing it for the ſeeds ſhould have been double dug. Having thus marked out the beds four feet wide, with proper alleys between them, carefully rub the ſeeds to ſeparate them, and ſow them thinly and even, and after that pat them well down with the back of the ſpade; then rake them in, neat up your beds, and the buſineſs is done. I need not tell the Gardener, that a ſtill day ſhould be choſen for the purpoſe, or it will be impoſſible to ſow the ſeeds with any tolerable degree of exactneſs; and that the lighteſt and drieſt part of the garden is the moſt ſuitable part for the Carrot bed.

When the Carrots are grown to about three or four inches high, they ſhould be hoed to ſuitable diſtances. Two Carrots ſhould never be ſuffered to grow together; and the neareſt diſtance they ſhould be left from each other ought to be ſix inches: Neither would this be ſufficient, were it not ſuppoſed that a conſtant thinning afterwards would be made for the uſe of the table, leaving the others to arrive at their full growth. The Orange Carrot is preferred before all others for this general crop; and if the ſoil is deep, and the plants are not crowded, the ſize they will arrive to is prodigious.

About November, before the froſts come on, the roots ſhould be taken up and laid by in ſand in a dry place, and they will be fit for uſe all winter and the ſpring following.

But as ſuch Carrots are large and coarſe, and are by many diſregarded, it will be neceſſary to have a fourth ſowing the beginning or middle of Auguſt. Theſe will ſtand the winter, and be in eating early in the ſpring; but it is very rare that they are properly flavoured: They will be often tough, ſticky, and diſagreeable, and much inferior to thoſe large ſorts that were preſerved in ſand; but as they are ſometimes very fine and well flavoured, the practice of the autumnal ſowing ſhould never be wholly omitted.

The Purple Carrot is the moſt tender, and the ſmalleſt, of all the ſorts. This ſhould be ſown in April, and it will be fit for the table the end of ſummer; it is very ſweet, and by ſome thought of ſuperior flavour to any of the other ſorts.

In ſowing of all the Carrots, the ground ſhould be well worked, the clods broken, and every thing made fine. The ſoil, to have them in the utmoſt perfection, ought to be rich, light, dry, and good, but never dunged; for if you ſow them on a dunged ſoil, the Carrots will be worm-eaten on the ſides, and of little value. But as one requiſite for a Carrot bed is a rich ſoil, that ſpot that hath borne a crop of onions the year before, will be proper for the purpoſe: The dung that made it fit for the onions will be incorporated with the mould; it will all then become one rich ſoil, and be a proper receptacle for the ſeeds of Carrots.

Of raiſing ſeed.

In order to raiſe a good ſtock of Carrot ſeed, let a ſufficient number of roots be left in the bed undiſturbed, at the time you take up the roots to lay them in ſand in the autumn. Theſe roots ſhould be left at about a foot diſtance from each other; or if the bed be wholly cleared, the largeſt and fineſt roots ſhould be ſelected from the ſand repoſitory, and ſhould be planted in a deep ſoil at a foot diſtance from each other. In Auguſt the ſeed will be ripe, at which time it ſhould be cut, as they do corn; and after it has lain a few days in the full ſun and air, it ſhould be tied in ſmall bundles, which ſhould be ſet upright for a few days longer, by which time it will be thoroughly dry, and may be beat out, and put up in bags, to be preſerved for uſe. Carrot-ſeeds will keep good for three years; though the freſh ſeeds are always to be preferred.

Of raiſing Carrots on Hot-beds.

Carrots may be raiſed on Hotbeds to come in early in the ſpring, before it is poſſible to obtain them with the utmoſt circumſpection from the natural ground. Carrots thus raiſed will be much ſuperior to any of the autumnal ſowed Carrots, or ſuch as have been preſerved in ſand; and this method ought more particularly to be practiſed, if you find that thoſe Carrots have been damaged, their flavour or even colour abated, or that in any reſpect they are not ſo good as might be expected.

This bed ſhould conſiſt of a pretty good depth of dung, ſhould be well trampled, and the mould to cover it ſhould be at leaſt a foot and an half deep. On this ſow your Carrots. They will ſoon come up; at which time give them as much air as poſſible, and frequent but moderate waterings. As the heat of the bed abates, line it well with hot dung, and you will find your Carrots to advance regularly towards perfection. From the beginning keep them clean from weeds; thin them where they come up too cloſe; give them all poſſible air; water them as you find the bed requires it; and in a little time they will be of ſize for the table, and you may draw them as you do Radiſhes for uſe.

Of raiſing Carrots in fields.

It is with pleaſure we behold the many improvements that have been lately made in Agriculture; and the encouragement afforded by the Society of Arts to reſearches of that nature, makes us hope to find experiments more properly attended to, and to ſee our land glowing with ſuch heightened produce as its nature is capable to ſupport. Among theſe improvements, the culture of Carrots for cattle in fields is one; a thing that until of late years was never known, and which now amply ſhews itſelf profitable and beneficial in ſuch places where land proper for the growth of Carrots is found: And where that happens, a good crop of Carrots will be worth nine or ten pounds per acre; whereas a crop of Turneps is hardly ever rated at above a third part of that value.

Proper ſoil.

The ſoil proper for Carrots ſhould be naturally deep, looſe, and light, and the ground, at the time of ſowing the ſeed, ſhould be in good heart. If this is wanting, it ſhould be well dunged the year before, and a crop of Barley or Oats obtained from it; or if the dung be very rotten, it may be uſed and ploughed in immediately before the ſowing of the Carrot ſeeds.

Taking it for granted, however, that the land is in good heart, and proper for Carrots, let it be ploughed very deep in September or October, and let it be well ridged to be mellowed by the froſt. About the end of January, or the beginning of February, it ſhould be ploughed acroſs very deep, and then well harrowed to break the clods, &c. This ploughing ſhould always be to the bottom of the ſoil; and if one plough is not ſufficient for the purpoſe, there ſhould be two, one to follow the other in the ſame furrow. In March it ſhould be ploughed again, and well harrowed; and in a calm day, when the ground is in good order for working, the ſeeds ſhould be ſown. A pound and an half of ſeeds will be ſufficient to ſow an acre; and as they are very light, and difficult to be ſown in large quantities, the beſt way will be to mix ſome dry mould or ſand with them: This will ſeparate the ſeeds, and enable you to ſcatter them with a more even hand. As ſoon as the ſeeds are ſown, harrow them in with a light harrow, and the buſineſs is done.

When the plants are about four inches high, they muſt be hoed and thinned in the ſame manner you do Turneps. No two carrots ought to be left together; and they ought not to be nearer at leaſt than ſix inches to one another; and if the land is rich and deep, they ought to ſtand at a greater diſtance. At this time the weeds muſt be hoed down, which will encourage the Carrots; and in about a month or ſix weeks after that, as you perceive the weeds to grow, the field muſt be gone over again with the hoe; and before they will have time to grow again, the plants will be in no danger of ſuffering by them.

Their uſes.

When the Carrots are at full growth, you may begin to draw them for uſe, if you have occaſion for them: But they are chiefly deſigned for winter food; at which time they will fatten ſheep, hogs, bullocks, or cows. They are admirable food for deer and horſes, and, in ſhort, hearty food for moſt animals. The meat of ſheep that have been fed on them is ſaid to be better flavoured, and firmer than that of thoſe fed on Turneps. And there is this further advantage the Carrot has over the Turnep, that its ſeeds will be pretty ſure of furniſhing you with a good crop; whereas the ſeeds of the Turnep are often ſowed ſeveral times over before you ſucceed; and in hot weather, and unfavourable ſeaſons, whole acres have been taken off by the fly in a few days: So that the Carrot is the ſureſt as well as moſt profitable root to the farmer.

Titles.

The Carrot is titled, *Daucus ſeminibus hiſpidis, petiolis ſubtus nervoſis.* Cluſius calls it, *Daucus vulgaris.* Caſpar Bauhine expreſſes one ſort of it by *Paſtinaca tenuifolia ſylveſtris Dioſcoridis*; another ſort by *Paſtinaca tenuifolia ſativa.* Tournefort calls it, *Daucus ſativus, radice atro-rubente.* It grows naturally in moſt parts of Europe.

CHAP. XXI.

HELIANTHUS TUBEROSUS, JERUSALEM ARTICHOKE.

Remarks.

THIS plant is improperly and very ſtrangely termed Jeruſalem Artichoke; for it grows naturally no where in the country about Jeruſalem, neither is it any ways allied to the Artichoke. It is a ſpecies of the Sun-flower, and America alone claims its native original growth. From thence it was brought to us about 150 years ago, and flouriſhes in our gardens as well as in its native country. People are very much divided about the flavour and quality of this root. Some much admire it as an eſculent, while others totally deſpiſe it: Some call it windy, watery, and unwholeſome; while others, again, affirm it to be ſalutary, and to afford good nouriſhment to the human body. Such, however, as are diſpoſed to raiſe theſe plants, muſt manage them thus:

Its Culture.

Dig up a piece of ground two ſpades deep in an open part of the garden, where the ſoil is rich and good; then having made ſmooth the ſurface, about the firſt week in April draw lines at a yard diſtance from each other, and along theſe lines plant your roots whole, four or five inches deep, and two feet aſunder from each other. When the weeds ariſe, conſtantly hoe them down, and in a little time the ſtalk will occupy the whole ground. In July cut up the ſtalks within half a yard of the ground, and if the weather ſhould prove dry, beſtow on them ſome buckets of water: This practice is found to make the roots larger, and finer flavoured, than if the ſtalks were permitted to run up directly to flower.

In September the roots may be taken out of the ground, and kept in dry ſand, as you do Potatoes; but the beſt way is to let them remain in the ground, and get them as you want to uſe them, for they are not liable to be deſtroyed by hard froſts; and freſh gathered plants always eat better than ſuch as are preſerved in ſand.

Pieces of the roots will grow in like manner as pieces of Potatoes will; but whole roots are always better, and will produce larger in return. The encreaſe of theſe roots, if the ground is good, is amazing; and when once they have got poſſeſſion of a garden, it is difficult wholly to extirpate them.

The Jeruſalem Artichoke is titled, *Helianthus foliis ovato-cordatis triplinerviis.* Caſpar Bauhine calls it, *Helienum Indicum tuberoſum*; and Columna, *Flos ſolis Farneſianus.* It grows naturally in Braſil.

CHAP. XXII.

HYSSOPUS OFFICINALIS, HYSSOP.

THE culture of Hyſſop is eaſily effected by planting the ſlips in a ſhady border, in the ſpring. That method has been recommended in order to raiſe ſuch a ſmall ſtock of plants as may be ſufficient for the Flower-Garden. But in order to raiſe it to perfection in large quantities for other uſes, recourſe muſt be had to the ſeeds.

Its Culture.

About the middle of March, therefore, having a ſufficient quantity of good ſeeds of the Common Blue-flowered Hyſſop, let a piece of ground be prepared by well digging, breaking of the clods, ſmoothing of the ſurface, &c. in a dry part of the garden. On this ſow your ſeeds with an even hand, and well rake them in, or ſift over them a quarter of an inch of the fineſt mould. If dry weather ſhould ſucceed the operation, let the beds be watered every third evening; and when the plants come up, thin them to about ſix inches diſtance from each other. The weeds muſt be deſtroyed as they ariſe; the beds ſhould be frequently watered; and when they become tolerably ſtrong plants, every other ſhould be taken away. The plants will then be at a convenient diſtance from each other; and the new-drawn plants may be made to form a freſh bed in another part of the garden. In the autumn thin them again, taking out the weakeſt plants, ſo that thoſe remaining may be about two feet aſunder every way. Thus will your Hyſſop grow to its full perfection: And in order to continue it ſo, ſome ſeeds from the fineſt plants ſhould be ſaved, and every other ſpring a freſh ſowing ſhould be made in a different part of the garden, in order to have a conſtant ſucceſſion of young plants, which will be always preferable to the old ones.

The titles of Hyſſop have been already given.

CHAP. XXIII.

LACTUCA, LETTUCE.

Various ſorts of Lettuce.

THE ſorts of Lettuce are very numerous; but the moſt valuable, and thoſe that are principally cultivated in our Gardens, are:

The Early Green Cabbage.
The White Cabbage.
The Brown Dutch.
The Green Capuchin.
The Red Capuchin.
The Imperial.
The Cilicia.
The White Coſs.
The Green Coſs.
The Black Coſs.
The Spotted.
The Curled.

There are other varieties of this extenſive ſpecies; but theſe are the principal ſorts that are permanent from ſeeds, and to one or other of which all the kinds yet known belong.

Lettuces, in one or other of the above ſorts, by different ſowings, may be had at all times of the year. Their uſes alſo are various: Some are deſigned to eat with young ſallading in the ſpring; ſome for ſoups, and others to be eat freſh, or by themſelves.

I ſhall begin with Early Lettuces deſigned to mix with other ſallad herbs in the ſpring.

Culture of the Early Green and White Cabbages.

The Early Green and the White Cabbages are proper for this purpoſe. In order to raiſe them, let the ſeeds be ſown on a warm border under a ſouth wall or hedge in February. The trouble of ſifting the mould over them is unneceſſary; it will be ſufficient to rake in the ſeeds; and if the weather ſhould afterwards prove dry, every other morning give the bed a gentle ſprinkling of water, and in a little time your ſeeds will come up. If the ſeaſon ſhould continue dry, as it often does in March and April, water your plants every morning; keep them clean from weeds; and when they are very ſmall, they may be thinned for table uſe. At each thinning always pull out the largeſt plants, leaving the weakeſt: Theſe will ſucceed the others; and your Lettuces will improve from the time of the firſt drawing, until the time of their beginning to run up to ſeed. This, then, is the firſt ſort of Lettuce to be raiſed for young ſallading; and thus may the practice be repeated all ſummer; only with this difference with reſpect to the ſituation: All after-ſowings muſt be in an open, moiſt part of the Kitchen Garden; for if they are ſtationed in too warm a place, they will run up, for the moſt part, to ſeed before they cabbage.

Lettuces for ſoup comprehend all the train of Cabbage Lettuces, of what kind or denomination ſoever. In order to have Cabbage Lettuces large, and in greater perfection, in February let a ſowing be made in the like manner as before; and when the plants are fit to remove, draw out the ſtrongeſt, and plant them in well-prepared beds, at about a foot diſtance from each other. At this time give them a moderate watering, and repeat it every morning until they have taken root. Leave the plants in the ſeed-bed a foot aſunder; ſmooth the ſurface of the bed, and give them alſo a ſprinkling of water; and as weeds ariſe, let them be deſtroyed. If the weather proves dry, water them every other morning, and this will bring them to their utmoſt perfection and ſize. Another bed ſhould be ſowed in like manner, and the plants managed accordingly: And this ſowing and management may be repeated every fortnight at pleaſure; obſerving always to ſet the plants that are for ſummer uſe in a moiſt, ſhady place, but not under the drip of trees, to continue them good for a longer time. This is the management of all the Cabbage Lettuces, of what kind or nature ſoever. But when large quantities of theſe are not wanted for ſoups, &c. it is ſeldom that more than two or three crops of them are raiſed, the Coſs Lettuces taking their place, which are generally allowed to be the beſt Lettuces in the world.

A Coſs Lettuce is a ſallad of itſelf; whereas no other herb of the ſallad kind, without proper aſſiſtance, is deemed ſuch.

Culture of Coſs Lettuces.

In order, therefore, to raiſe Coſs Lettuces, let the ſeeds be ſown the firſt week of March, in a well-prepared border under a ſouth wall or hedge. Water the bed every other morning, if the weather ſhould prove dry; and after the plants are come up repeat the watering, if there ſhould be occaſion, until the plants are big enough to remove. When they are tranſplanted, they muſt be allowed a greater diſtance than the Cabbage Lettuces; and if the ground is very good, they ought not to be nearer than half a yard to each other. The plants in the ſeed-bed muſt be left at that diſtance, and the bed muſt be made level and even. At the removal, all muſt have a good watering; which muſt be repeated every day until they have taken root: And this, except keeping the weeds down, and watering the plants if dry weather ſhould happen, is all the trouble they will call for until they are fit to be drawn for uſe. This work may be repeated every three weeks at pleaſure; and after the firſt time, the plants ſhould always have a moiſt, ſhady part of the garden, but not under the drip of trees, to continue them good for a longer time.

In this manner may all the kinds of Lettuces, of what ſort or nature ſoever, be propagated; and by a repetition of the work at the above intervals, there may be a ſucceſſion of one or all of them throughout the whole ſummer and autumn.

But, in order to have them in the winter, let ſome good ſeeds of the Brown Dutch be procured,

cured, for that is hardieſt, and by far the beſt and moſt proper of all the ſorts for winter uſe; though, if a perſon is fond of variety at that ſeaſon, he may alſo ſow ſome of the Common Cabbage, Green Coſs, and Capuchin Lettuce-ſeeds, which are tolerably hardy, and in favourable winters ſucceed very well.

Of raiſing Lettuces for winter uſe.

The Brown Dutch, however, being the principal ſort for winter uſe, let the ſeeds be ſown in the uſual way in the middle of Auguſt; and when they are fit to remove, which will be about the beginning of October, let them be planted out in the warmeſt part of the garden, at about ten inches aſunder. If the place be well ſheltered, and the winter proves tolerably mild, they will ſtand abroad all winter, and will be in full perfection in March and April: But if the weather ſhould prove very ſevere, it would be neceſſary to hoop the beds, and cover the plants with mats, or at leaſt to ſcreen them from the cutting blaſts with reed hedges, or the like; and they will abundantly recompenſe you for your trouble, by preſenting themſelves ready for uſe at an unexpected ſeaſon.

After all, if you chuſe to be at the trouble of hooping your beds, and covering the plants in froſty weather, all the ſorts of Coſs as well as Cabbage Lettuces may be brought up for winter and ſpring uſe.

It is a common practice, when the plants are grown large, to tie the tops with baſs ſtrings to blanch them. The gardeners find their benefit in this practice; but the Black Coſs, of all the ſorts, requires this treatment to render it criſp and good.

Once more I muſt repeat: Always let your Summer Lettuces be planted in the cooleſt part of the garden, otherwiſe they will run up to ſeed by ſuch time as they ſhould be fit for uſe: And with regard to your Winter Lettuces, let ſuch as are under cover have all the free air poſſible, and let them be protected from heavy rains as well as hard froſts; for one is almoſt as deſtructive to the generality of theſe plants at that ſeaſon as the other.

Directions for ſaving the ſeed.

The fineſt plants of all the ſorts are to be marked for ſeed, viz. among the Coſs kinds, the firmeſt and the largeſt; and among the Cabbage kinds, ſuch as are the ſhorteſt, and cabbage the hardeſt. The different ſorts of plants muſt be entirely in ſeparate parts of the garden, or your ſeeds will not anſwer your expectation. The female parts of one will be impregnated with the farina of another; and thus a mongrel of both ſorts may be expected in return. Beſides this, the plants for ſeed ought to be ſuch as were ſown in January or February, or ſuch as have ſtood the winter; for there is not a certainty of good ſeeds from plants that were ſown late in the ſpring.

Having, therefore, made choice of the firmeſt and the forwardeſt plants of the different ſorts in their different apartments, let your eye conſtantly attend them from that time until they afford you the ſeed. Keep them clean from weeds; ſtir the ſurface of the earth, the better to receive the influences of the ſun, dew, and air; water them in dry weather; and as they advance in height, faſten each ſtalk to a ſtick thruſt into the ground, to prevent its being broken down by the wind. The ſeed will not always be all ripe together on the ſame ſtalk; ſo that when you find one part to be ripe, it ſhould be cut off from the reſt; and as every other part ripens, it ſhould be cut off, until you have the ſeed of the whole plant, which ſometimes will be ten days or a fortnight in gathering. Keep the ſorts ſeparate, and let each be numbered, and laid on a cloth in a dry airy room; and let them be expoſed to the ſun and air in the middle of the day, always taking them under cover on the firſt appearance of rain or bad weather. When you find they are ſufficiently dry, threſh them out; and after having expoſed them a few days for the further benefit of the ſun and air, put them up in bags to be ready for uſe.

Titles.

The Lettuce is titled, *Lactuca foliis rotundatis, caule corymboſo.* Caſpar Bauhine calls it, *Lactuca ſativa*; and expreſſes the varieties by, *Lactuca capitata—Lactuca criſpa*, and the like. It is not certain in what part of the world Lettuces grow naturally.

Claſs and Order in the Linnæan Syſtem.

The characters.

Lactuca is of the Claſs and Order *Syngeneſia Polygamia Æqualis*; and the characters are,

1. Calyx. The common calyx is nearly cylindrical, and imbricated, being compoſed of many ſharp-pointed ſcales.

2. Corolla. The compound flower is imbricated, and uniform. The florets are numerous, and equal; and each conſiſts of a tongue-ſhaped, truncated petal, indented at the top in four or five parts.

3. Stamina conſiſt of five very ſhort capillary filaments, with a cylindrical, tubular anthera.

4. Pistillum conſiſts of an oval germen, a filiforme ſtyle the length of the ſtamina, and two reflexed ſtigmas.

5. Pericarpium. There is none.

6. Semina. The ſeeds are ſingle, oval, pointed, compreſſed; and each is crowned by a ſimple, hairy down, placed on a long ſtipes.

The receptacle is naked.

CHAP. XXIV.

LAVANDULA SPICA, LAVENDER.

OUR Kitchen Gardens exhibit three or four ſorts of Lavender, viz.

Species.

The Common Narrow-leaved.
Broad-leaved.
The White-flowered.
The Dwarf.

Culture.

They are all eaſily propagated, by planting the ſlips about the laſt week in March, or the firſt week in April. They ſhould have a ſhady ſituation, and ſhould be ſet in rows, at about three or four inches diſtance from each other. At the time of planting they ſhould have a good watering; and this ſhould be repeated every other evening until they have taken root.

They will ſoon become good plants; and any time in the ſummer, or early in the autumn, they may be removed into the places where they are deſigned to remain. A moiſt day, if poſſible, ſhould be choſen for the purpoſe. A ball of earth ſhould be preſerved to each root; and they ſhould be ſet with care in a dry, ſandy, warm, well-ſheltered place, in rows, about two feet diſtant from each other: After that they will require no trouble, except keeping them clean from weeds, and watering them in very dry weather.

Titles.

Lavender is titled, *Lavandula foliis lanceolatis integerrimis, ſpicis nudis.* Caſpar Bauhine calls it, *Lavandula anguſtifolia*; alſo, *Lavandula latifolia*; and Dodonæus, *Lavandula altera.* It grows naturally in the ſouthern countries of Europe.

CHAP. XXV.

LAVANDULA STOECHAS, FRENCH LAVENDER, or STICKADORE.

The plant deſcribed.

THERE are many varieties of this ſpecies, which go by the names of Caſſadony, French Lavender, and Stickadore. All of them are ſhrubby branching plants, two or three feet high. The leaves are narrow, ſpear-ſhaped, and ſome of them are finely divided on their edges, and of an agreeable aromatic odour. The flowers come out in ſpikes from the ends of the branches; they are generally of a purple colour; tho' there often riſe from the ſame ſeed plants bearing white flowers They appear in May, June, and July, and the ſeeds ripen in Auguſt or September.

Culture.

Theſe plants may be propagated by cuttings, in the manner of the Common Lavender; but the beſt plants are to be obtained from ſeeds. Sow theſe the laſt week in March, in beds of light earth; and if the weather ſhould prove dry, afford the beds every other morning a ſprinkling of water, and draw mats over them from eleven o'clock in the morning until three in the afternoon. With theſe precautions your ſeeds, if they are good, will inevitably come up, let the weather prove what it will. When the plants are all up, the mats muſt be wholly taken away; but if the weather ſhould prove dry, watering muſt not be omitted. When the plants are three inches high, they ſhould be pricked out in beds of light earth in ſome warm, well-ſheltered place, three or four inches aſunder; and unleſs moiſt weather ſhould happen at the time of this operation, they ſhould be watered and ſhaded at firſt. If the winter ſhould prove ſevere, it would be proper to thruſt down a cloſe row of furze-buſhes round the beds, for the defence of the plants from the froſt. On the return of mild weather, ſuch protection ſhould be taken away; and in the ſpring following the plants may be removed, preſerving a ball of earth to each root, to the place where they are deſigned to remain.

Titles.

This ſpecies is titled, *Lavandula foliis lanceolato-linearibus, ſpicâ comoſâ.* Caſpar Bauhine calls it, *Stœchas purpurea*; alſo, *Stœchas cauliculis non foliatis*; and Cluſius, *Stœchas brevioribus ligulis*; alſo, *Stœchas longioribus ligulis.* It grows naturally in moſt of the ſouthern countries of Europe.

CHAP. XXVI.

LEONTODON TARAXACUM, DANDELION.

Introductory remarks.

THE Dandelion is a well known plant, growing every-where in paſtures, neglected gardens, and too frequently in our gravel-walks. It is highly excellent as a ſallad-herb; but few are acquainted with this, becauſe few know how to bring it to perfection for the table. It has been recommended, indeed, by many; but upon trial, the reliſh has been bitter and diſagreeable; and it has been totally rejected even by thoſe who are fond of almoſt all ſorts of eatable vegetables.

Its uſes in medicine.

Dandelion is a plant uſed in Medicine. It is a fine aperient and detergent, and powerful in reſolving coagulations of moſt ſorts; and as it has been employed in thoſe caſes with good ſucceſs, it may be eaſily imagined how wholeſome a plant this muſt be to the healthy; and how much it concerns us to make it as palatable as poſſible, that its ſalutary effects may be more generally experienced.

Culture.

In order therefore to raiſe this notable plant, that it may become an agreeable as well as uſeful eſculent, ſow the ſeeds at different times, that one crop may ſucceed another for the longer time.

Suppoſe the firſt ſowing to be made early in the ſpring. The ſeeds ſhould be ſown in the common way, in beds of the richeſt garden mould made fine; and if the weather ſhould prove dry, the beds ſhould be frequently watered, the more effectually and more ſpeedily to bring them up.

When they are about an inch high they ſhould be thinned, drawing out the weakeſt, and leaving the others eight or ten inches diſtant from each other; and if the weather proves dry, repeat the watering, that the plants may receive no check in their luxuriant ſtate; for on the prevention of this, in a great meaſure, depends the goodneſs of Dandelion.

They will grow amazingly faſt, as every Gardener knows well by ſad experience; and the leaves will ſpread themſelves in a circular direction round the crown of the root; and, being of a ſoft fine green colour, would be deemed beautiful, were they not ſo common.

When they have ſpread themſelves thus over the whole ground, they will be of proper ſize to remove. The Gardener muſt be told, that his buſineſs is to blanch them in the manner of Endive; and his judgment will direct him to appropriate for that purpoſe a ſhare of the richeſt part of the Kitchen Garden.

Method of blanching Dandelion.

The ground muſt be well dug, and made fine; and the plants being taken up, muſt have their roots trimmed, and muſt be ſet in rows in a deep trench: The trenches ſhould be a foot and an half diſtant from each other; and the plants ſhould be ſix or eight inches diſtant from each other in the rows. When they have commenced a good growing ſtate, the leaves ſhould be drawn up, and looſely tied together at the top with ſome baſs ſtrings; then mould up the plants ſo that their tops only may appear above ground. Notwithſtanding they ſeem thus buried, you will find them ariſe amazingly ſtrong from the earth; additional green leaves will grow from the tops of thoſe that were buried; and as theſe advance in height, freſh mould muſt be drawn up to their ſides as before; and the buried leaves, or rather lower part of the whole leaf, will by this means ſoon become finely blanched, criſp, and tender, will equal the beſt Endive in reliſh, and exceed moſt others in goodneſs as wholeſome diet.

In order to have blanched Dandelion always ready for uſe, a repetition of the ſowing muſt be made every three or four weeks; for tho' plants may be gathered from the fields, or neglected gardens, which will do, yet the blanched parts are never ſo fine as thoſe which have been raiſed from ſeeds, and brought forward as ſpeedily as may be under the beſt care and management of Garden Culture.

Titles.

The Dandelion is titled, *Leontodon calyce infernè reflexo, foliis runcinatis denticulatis lævibus.* Caſpar Bauhine calls it *Dens leonis, latiore folio*: alſo, *Dens leonis anguſtiore folio*; Fuchſius names it, *Hedypnois*; and Tournefort, *Dens leonis latiore & rotundiore folio.* It grows naturally in moſt countries of Europe.

CHAP. XXVII.

LEPIDIUM SATIVUM, GARDEN CRESS.

THERE are three ſorts of the Garden Creſs that are excellent for young ſallading in the winter, ſpring, and ſummer; ſuch as,

Species.

The Broad-leaved.
The Common.
The Curled.

Its uſes.

The Common ſorts are chiefly raiſed to be eat young; but the Curled kind is preferred by ſome for the ſake of the leaves, which are more ſuitable garniſh for diſhes, &c.

The ſeeds of all the ſorts muſt be ſown at different times to have them in different ſeaſons: I ſhall begin with the ſpring ſowings.

Culture.

A warm border muſt be choſen for the purpoſe in February and March; the mould muſt be made fine, and ſmall drills muſt be drawn at a very little diſtance from each other. In theſe ſow your Creſs Seeds; cover them down, and the buſineſs is done. After the plants come up, and before they are got into the rough leaf, they will be proper to join with other ſallad herbs, ſuch as White Muſtard, Rape, Raddiſh, &c.; ſo that, as they would ſoon be too old for that purpoſe, a repetition of the ſowing ſhould be made every four or five days: And this ſhould be continued with the other ſorts as long as you would chooſe this kind of ſallading: And after the early ſpring-ſowings, which, as was ſaid, ought to be under a ſouth wall, the late ſpring and ſummer ſowings ſhould be in the open ground, or rather in the ſhade; but never under the drip of trees: And with regard to the raiſing of Creſs any time in the winter, it may eaſily be done by ſowing it on a hotbed, and covering it with mats or glaſſes from froſt and heavy rains. Your hotbed plants will be fit for uſe ſoon after they come up; ſo that nothing more need be ſaid with reſpect to their management, except to remind the Gardener to give the plants ſufficient air, to prevent their ſtalks and ſeed-leaves growing weak, yellow, ſlender, and ſmall; and alſo now and then to ſprinkle them with water, as he ſhall ſee occaſion. With regard to the ſummer ſowings, the rows ought to be watered every morning until the plants come up. When they are to be gathered, it ſhould always be at about half an hour after the morning's watering; and they ſhould be kept in a cool place until wanted for dinner; by which means the firmneſs and true flavour of the plant in that infant ſtate will be preſerved.

When they are deſigned to ſtand longer before they are gathered, the Broad-leaved and the Curled ſorts ſhould be thinned to two inches diſtance from each other. With regard to ſaving of the ſeed, in order to continue the Curled ſort in perfection, all plants that have the leaſt tendency to degenerate, or appear leſs curled, ſhould be pulled up, and thoſe only left for ſeed that are moſt perfect in the Curled way. When the ſeeds are ripe, nothing more is to be done than to pull up the plants; and after having expoſed them to the ſun and air for a few days to dry, to threſh out the ſeeds, and put them up in bags for uſe.

Titles.

Garden Creſs is titled, *Lepidium floribus tetradynamis, foliis oblongis multifidis.* In the *Hort. Cliff.* it is termed, *Lepidium foliis variè diviſis inciſiſque.* Caſpar Bauhine titles the Plain ſort, *Naſturtium hortenſe vulgatum*; and the Curled, *Naſturtium hortenſe criſpum.* Dodonæus calls it, *Naſturtium hortenſe.* It is not certain in what part of the world this ſort of Creſs naturally grows.

CHAP. XXVIII.

MELISSA OFFICINALIS, BAUM.

Culture. BAUM is propagated by dividing of the roots; the beſt time for which is October. The ground ſhould be well dug, and the plants ſhould be ſet in rows a foot and an half from each other, the rows being two feet aſunder. Every root ought to conſiſt of five or ſix buds; and when they are all planted, the beds ſhould be neated up, and a good watering ſhould be afforded the plants. After that, they will require no further care than keeping them clean from weeds until they are ſtrong enough to defend themſelves.

In order to have Baum in perfection, freſh beds ſhould be made every three years, and the ſtalks ſhould always be cut down for uſe juſt before they come into flower.

The ground between the rows ſhould alſo be dug in the beginning of the winter, when all remaining ſtalks ſhould be cleared away, and a little fine mould laid over the buds of the plants.

The titles of Baum have been given before.

CHAP. XXIX.

MENTHA, MINT.

Its uſes. THE different ſorts of Mint have been already deſcribed; but the beſt, and moſt generally cultivated ſort for the Kitchen uſe is the Spear-mint; whilſt the Pepper-mint is raiſed in abundance for diſtilling, and other ſalutary purpoſes.

Culture. They will all readily grow by cuttings, if planted in the ſhade in the ſummer, and duly watered; but the beſt method of propagation is by planting the roots in the ſpring.

For this purpoſe let a piece of ground be well prepared in a moiſt part of the garden, and plant your roots in rows, ſix inches from each other. About ſix or ſeven of theſe rows will be wide enough for a bed; and then a ſpace of two feet ſhould be left for a path, and the like number of rows ſhould be planted for a ſecond, a third bed, &c. until the whole is completed. Any time in the ſpring is a good ſeaſon for the work; and if the weather ſhould prove dry after, it will be of great ſervice to your Mint to water the beds frequently.

The Mint will readily come up, and may be uſed as wanted; though, to continue it in perfection, freſh beds ſhould be made in the like manner every four or five years.

Mint may be cut two or three times a-year; though it ſhould always be gathered for medicinal uſes when it is in flower, and on a dry day.

Every autumn the ſtalks ſhould be cut up cloſe to the ground; and if a little freſh mould be ſifted over the beds, it will have a neat look, and the plants will riſe proportionally ſtronger the ſummer following.

Of raiſing Green Mint in winter. In order to have green Mint in winter, we muſt have recourſe to hotbeds. And for this purpoſe let a moderate hotbed be made the end of November, or early in December. Cover it with the fineſt mould about nine inches deep; and after it has lain four or five days, plant ſome good roots of Mint in largiſh pieces, at four inches diſtance from each other; let the bed be hooped, to be covered with mats in bad weather, and in dry weather frequently water the plants.

They will ſoon come up, and be fit for uſe; but leſt the Mint, by often cropping, ſhould not be thought ſo fine at the laſt, it would be adviſeable to plant another bed in the like manner, about the middle of January. Thus your table may be ſupplied with fine young ſhoots of green Mint from Chriſtmas until the Common Mint comes in.

CHAP. XXX.

MENTHA PULEGIUM, PENNY-ROYAL.

Its uſes. PENNY-ROYAL is a ſpecies of Mint, and admirable for various uſes, but more eſpecially for giving an agreeable flavour to hogs puddings.

Culture. There are two ſorts of it, the Common and the Upright Penny-royal. The propagation is, by dividing of the roots in the ſpring. They will ſoon make great increaſe, and ſtrike out roots from the joints, ſpreading themſelves by that means all around. The Upright ſort will grow to a foot and an half high; and when the ſtalks are in full blow, and over-laden with the burden of their whorls of flowers, and bend their tops to the ground, they will even ſtrike root among the flowers, and freſh plants, at a foot and an half diſtance from the roots, will commence.

In ſhort, there is no poſſibility of miſſing the culture of Penny-Royal. Give it but a moiſt ſoil and a ſhady ſituation, and plant it how you will, or when you will, it will readily grow, and make great increaſe.

The titles of all the ſorts of Mint and Penny-Royal have been mentioned before.

CHAP. XXXI.

OCYMUM BASILICUM, BASIL.

Its uſes. THE uſe of Baſil in ſoups is now become general, which occaſions its being raiſed in great plenty in many gardens.

Culture. Sow the ſeeds on a gentle hotbed the beginning of March, and ſift over them a little more than a quarter of an inch of fine mould. Water the bed now and then; and when the plants are of ſize to remove, draw out the largeſt, leaving the others about three inches aſunder. The largeſt muſt be pricked out on a ſecond hotbed, whilſt the others may remain for a ſtanding crop, thinning them as you want them. In both theſe beds water the plants frequently, give them plenty of air, and about the middle of May let them be planted in the open ground. That they may grow to their full perfection, ſet them at ten inches aſunder. Let a moiſt day, or a mild evening, be choſen for the purpoſe; and for want of moiſt weather, let them be regularly watered until they have taken root: After that, they will require no further trouble, except keeping them clean from weeds; and they may be uſed as they are wanted.

The titles of Baſil have been mentioned already.

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CHAP. XXXII.

ORIGANUM, MARJORAM.

Its uſes. THE Common Wild, the Pot, and the Winter Marjoram are all admirable in broths and ſoups; for which purpoſes they are raiſed in plenty in ſome gardens.

Culture. They are eaſily propagated by dividing of the roots in autumn, and planting them a foot aſunder; but in order to have them in their full perfection, the ſeeds muſt be ſown.

Let a piece of ground, therefore, be in readineſs by the middle of March; and in this ſow your ſeeds with an even hand, and rake them in. If dry weather ſucceeds, water the beds every third evening, and in a little time your plants will come up. Where they appear too cloſe, draw out the weakeſt, and deſtroy the weeds; and when they are about an inch high, thin them with the hoe, leaving them at about eight or ten inches diſtance from each other: At this time, hoe down all the weeds, and repeat that work as often as they ariſe. If dry weather happens, water your Marjoram every other evening, and it will recompenſe you for your trouble, by being better, and coming into uſe proportionally ſooner.

The titles of the different ſorts of Pot Marjoram have been given before.

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CHAP. XXXIII.

ORIGANUM MARJORANA, SWEET, or KNOTTED MARJORAM.

THIS plant has been mentioned amongſt the Annuals, being often raiſed in the Flower-Garden for the ſake of noſegays, &c.

Culture. Being an Annual, it is raiſed with us only from ſeeds; and the time to ſow theſe is ſoon after the middle of March. The beds ought to conſiſt of fine, light earth, and about a quarter of an inch of the fineſt mould ſhould be ſifted over the ſeeds. If dry weather ſhould ſet in, the beds ſhould be watered every third evening; and when the plants are about an inch and an half high, they muſt be removed to another bed. The ground muſt be well dug; a moiſt day or evening ſhould be choſen for the purpoſe; and they ſhould be carefully planted in lines, at eight inches diſtance from each other every way. Water them until they have taken root, keep the ground clean from weeds, and in July the plants will come into flower, and be fit for uſe.

The titles of Sweet, or Knotted Marjoram, have been mentioned before.

CHAP. XXXIV.

PASTINACA SATIVA, PARSNEP.

Introductory remarks. THE Parſnep of our Kitchen Gardens is doubtleſs a variety of the Common Wild Parſnep of our fields, that was firſt obtained by accident, and has been ſince kept up and improved by good culture and management.

The Parſnep is one of the largeſt tap-roots that is brought to our tables. It is exceeding wholeſome; but is poſſeſſed of ſuch a phyſical ſweetneſs, that very few reliſh it.

Culture. In order to raiſe good Parſneps, the ground ſhould be exceeding rich, and double dug; in doing of which, the clods ſhould be well broken, and the ſurface made level and ſmooth. The firſt week in March is the beſt time for this work, and for ſowing the ſeeds; though, if the weather be exceeding wet, ſnow be upon the ground, or a hard froſt ſhould happen, the work may be deferred longer without much injury to the crop: Or if mild fine weather ſhould happen in February, it would be adviſeable to ſeize the opportunity, and ſow the Parſnep ſeeds. In ſowing them, nothing more is to be done but to ſcatter them thinly with an even hand, then to tread them in, and ſlightly rake the mould over them. When the plants are about three inches high, they ſhould be hoed like the Carrots; and they ſhould be left at a foot diſtance from each other: The weeds, at this time, ſhould be all carefully hoed up, and deſtroyed; and the more effectually to do this, the buſineſs ſhould be performed in dry weather. A repetition of the hoeing ſhould be made as often as the weeds ſhew it to be neceſſary; and when the plants get into full leaf, they will defend themſelves againſt all encroachments.

When the leaves decay in the autumn, the roots will then come into eating; for they are ſeldom good before. They will continue in ſeaſon all winter, and will ſoon become ill-taſted and worth little, after they begin to ſhoot in the ſpring.

It is a cuſtom with moſt Gardeners to dig the Parſneps up before the winter ſets in, and preſerve them in ſand to be ready for uſe; they will then keep good for many months: But I would always adviſe thoſe who are fond of Parſneps late in the ſpring, to let part of the bed remain untouched until the end of January; then to dig them up, and preſerve them in ſand like the others. This practice will backen them, and keep them good until the middle or end of April.

Of ſaving the ſeeds. In order to ſave the ſeeds of Parſneps, ſome of the fineſt and largeſt roots ſhould be taken up, and planted in a well-ſheltered place, three quarters of a yard diſtant from each other. They muſt be conſtantly kept clean from weeds; and if you water them every third evening, ſhould the ſeaſon prove dry, they will amply make amends, by producing you a proportional larger quantity of fine ſeeds. About the beginning of September your ſeeds will be ſufficiently hardened, and fit to be gathered; then cut off the heads, ſpread them upon a mat in an airy place; and when you find they are ſufficiently dry, beat off the ſeeds, and preſerve them in a dry place until the ſpring following, when they muſt be ſown or thrown away, as they ſeldom grow after they are a year old.

Titles. The Parſnep is titled, *Paſtinaca foliis ſimpliciter pinnatis*. Caſpar Bauhine mentions the Wild ſort and the Garden ſort as two diſtinct ſpecies: One he calls, *Paſtinaca ſylveſtris latifolia*; and the other, *Paſtinaca ſativa latifolia*. John Bauhine calls it, *Paſtinaca Germanica ſylveſtris, quibuſdam Elaphoboſcum*. It grows naturally in England, and moſt parts of Europe.

CHAP. XXXV.

PHASEOLUS VULGARIS, The KIDNEY-BEAN.

THE variety of Kidney Beans is very great, and freſh ſorts are yearly introduced into our Gardens. The French are very ſedulous in procuring freſh varieties; and the great improvement of this ſpecies is chiefly owing to thoſe people: Hence the name French Bean is almoſt univerſally adopted to expreſs this ſpecies, whilſt the true name, Kidney Bean, is almoſt forgotten.

Claſſes. Kidney Beans are divided into two claſſes:

1. The Dwarfs.
2. The Runners.

Principal ſorts of the Dwarf kinds. 1. Of the Dwarfs, the principal ſorts are,

The Early Yellow.
The Early White.
The Canterbury.
The Deep Liver-coloured.
The Cream-coloured.
The Black.
The Black Streaked.
The Black Speckled.

Principal ſorts of the Larger kinds. 2. Of the Larger ſorts the principal are,

The Negro Runner.
The Batterſea Runner.
The Large Dutch Runner.
The Scarlet.
The White.
The Variable.

The Dwarf ſorts are always raiſed for Early Beans; but the Larger ſorts are the ſweeteſt, and the beſt bearers.

Kidney Beans are of a very delicate and tender nature. The firſt froſt that happens after they are in a growing ſtate in the open air, puts a period to their exiſtence; on which account, Kidney Beans ought never to be ſown before the

Culture of Kidney Beans in the open ground,

beginning of April; and even then on a light, ſandy, dry ſoil, in a warm, well-ſheltered place: And for want of ſuch a ſoil and ſituation, it will be adviſeable to defer the ſowing until almoſt the end of that month; for the odds will be very great but that your labour will be in vain.

Taking it for granted, however, that your ſituation is tolerable, in the ſecond week of April let the ground be well-dug and made fine, and let ſome ſeeds of the Early White and Yellow Dwarfs be in readineſs to be ſown; then draw two lines, pretty near together, the whole length of the ground; and having opened the ground with a hoe, in theſe rows ſow your ſeeds by pairs, at about four or five inches diſtance pair from pair. At a yard diſtance from theſe rows let two rows more be ſown in the like manner, and after that two others, until the whole is completed; carefully cover all the ſeeds, make the ground level and neat, and the firſt ſtep towards a diſh of Kidney Beans is completed.

After the ſeeds come up, keep the ground conſtantly clean from weeds, and draw a little mould up to the ſtalks of the plants with the hoe; water them in dry weather; and this is all the trouble neceſſary to attend them until the Beans are fit for the table. A fortnight after the firſt ſowing let a ſecond be made, for there will be a great chance of the firſt being deſtroyed by froſt; after that, another at a fortnight's diſtance, to keep up the ſucceſſion; and at this time, all the ſorts of Dwarf Kidney Beans may be ſown. If you are fond of theſe kinds, a repetition of ſowing every fortnight ſhould be made, until June, to continue the ſucceſſion all ſummer.

With regard to the Large ſorts, called Runners, they ſhould be ſown about the firſt week in May. The rows for the talleſt ſorts ſhould be ſingle, and about four feet diſtant from each other; the ſeeds ſhould be about three inches aſunder, and ſhould be covered with fine mould about an inch deep. After the plants are come up, keep the ground clean from weeds, and draw earth up to their ſtems, as they advance in height. When they are about four inches high, they muſt be well ſtuck with good ſtrong ſticks, or poles, for them to climb on: By theſe they will advance to a great height, will flower, and afford a ſucceſſion of fruit until the froſt ſtops them. This then is the method of raiſing Kidney Beans in the open ground.

and on hotbeds.

In order to have very early Kidney Beans, let a hotbed be prepared of freſh, well-wrought dung by the beginning of February; let it be two feet and a half deep, and let it be covered with nine inches of good fine garden mould. When the heat of the ſteam is over, and the bed is in regular temperature, ſow the ſeeds in rows near two feet aſunder, and at about two inches diſtance from each other, covering them over with about half an inch of the mould; then keep the bed cloſe by putting down the glaſſes; but always open them a little in the middle of the day: And let this be your practice until the plants appear.

When you find this, give them more air; and, as they advance in height, uſe them as hardily as poſſible, to prevent their drawing weak. But this muſt be done with great judgment; for if the glaſſes are open too long, or ſome unexpected blaſts ſhould happen, your plants will probably be chilled and much damaged, if not deſtroyed: But, by keeping a ſtrict eye over this practice, and hardening them by degrees to the height their nature will bear, they will bloſſom ſtrong, and produce a large quantity of fruit.

As weeds ariſe pull them up, draw the mould up to the ſtalks of the plants as they advance in height, and every other day give them a gentle ſprinkling of water.

As they advance in height, and come into flower, more air ſtill muſt be given them; and they muſt be ſhaded, by covering of the glaſſes in the heat of the day. Beſtow little water on them at the time of flowering; but when you find the pods are formed, let them have a good ſprinkling, and they will in a very little time after be fit for the table.

For the ſecond crop of Kidney Beans, let another hotbed be in readineſs by the laſt week in March: Let it be of the ſame thickneſs with the former, and let it be well hooped, to be covered with mats inſtead of glaſſes. When it is in proper temperature ſow your ſeeds by pairs, at about three or four inches diſtance pair from pair, and then lay your mats over the hoops. The plants will ſoon come up, and, as they advance in height, muſt be frequently watered; the mats muſt be raiſed or taken off in mild weather, to harden the plants as much as poſſible; and when all danger of bad weather is over, take up the plants, as they ſtand in pairs, with a good ball of earth to the roots, and plant them in a well prepared border in a warm ſituation; water them every day until they have taken root, and keep them clean from weeds; and this is all the trouble they will require until the fruit is fit for the table.

This will be the ſecond crop of Kidney Beans; and thoſe ſown in the natural ground will come in to be the third and ſucceeding crops of courſe.

Of ſaving the ſeeds.

As in Beans and Peaſe, ſo alſo in the Kidney Bean, a ſufficient quantity ſhould be ſown for ſeed by themſelves, which ſhould remain untouched until the ſeed is ripe. They ſhould be ſown as if deſigned for the table uſe, and managed accordingly; and when the ſeeds are quite ripe, the plants ſhould be entirely pulled up with the roots, and laid in rows upon any thing that will keep them hollow from the ground. They muſt be turned every day; and when you find them thoroughly dry, threſh out the ſeeds; but before you put them up in bags for uſe, ſpread them upon ſome table or floor in a dry airy place, that they may be thoroughly hardened.

Exchange of Kidney Beans for ſeed is neceſſary to be made every two or three years; and if this can be done with ſome Gardener who values himſelf on his Kitchen Garden productions, you may expect to have your Kidney Beans every year in perfection.

Titles.

The Kidney Bean is titled, *Phaſeolus volubilis, floribus racemoſis geminis, bracteis calyce minoribus, leguminibus pendulis.* Van Royen calls it, *Phaſeolus radice annuâ, caule volubili, leguminibus pendulis compreſſis toroſis.* It grows naturally in both the Indies.

CHAP.

CHAP. XXXVI.

PISUM, The PEA.

Introductory remarks. THE varieties of the Pea are no leſs numerous than thoſe of the Bean; and it is a matter of diſpute, whether it be the Grey Field Pea, called the Hog Pea, or the Common White Pea of our gardens that is the parent of them all. Without entering into ſuch needleſs diſquiſitions, I ſhall enumerate the moſt principal ſorts, and direct their culture.

The principal ſorts of Peaſe are,

Species.
Nichols's Earlieſt Charlton.
Early Golden.
Charlton.
Early Heſſian.
Maſters's Early Hotſpur.
Early Long Reading Hotſpur.
Eſſex Hotſpur.
White Cluſter.
Small Dwarf.
Sugar Dwarf.
Ledman's Dwarf.
Early Dwarf Marrow-Fat.
Early Crooked Grey.
Early White Dwarf.
Early Tall White.
Early Grey Cluſter.
Spaniſh Morotto.
Nonpareil Marrow-Fat.
Green Nonpareil.
Rouncival.
Blue Union.
Large Grey.
Painted Lady Crown Pea, &c.

Nichols's Earlieſt Charlton is an improvement of the Early Golden, and conſequently moſt proper to ſupply the table with the firſt crop of Early Peas.

Culture. In order, therefore, to have Early Peas, let ſome ſeeds of this, or of the true Early Golden Pea be procured; and by about the twenty-third of October let the ground be prepared for their reception. The ſituation muſt be warm and well-defended, and your Peas muſt be ſown on a ſouth border. The rows ſhould be two feet aſunder, and the Peas ſhould be at about three inches diſtance from each other; or they may be placed by pairs, at about five inches from one another; then cover them with the fineſt mould about three quarters of an inch deep, and the firſt ſtep towards Early Peas is effected. The plants will ſoon come up; and as they advance in height, draw the mould up to the ſtalks. On the approach of bad weather, ſtick a row of furze-buſhes pretty cloſe together, to guard them from the keener blaſts; conſtantly removing theſe on the return of mild ſeaſons, that they may have all the benefit of the air, ſun, and dews. This is all the trouble they will require during winter.

In the ſpring, if you find the ſlugs infeſt your plants, early in a morning ſcatter ſome new-ſlacked lime over them: This will deſtroy them, and very little prejudice your Peas. Weeds, by this time, will riſe in plenty: Conſtantly hoe them down, chuſing a dry day for the purpoſe, and draw the mould with the hoe up to the ſtalks of the Peas. But this muſt be done with care; for if you draw it ſo high as to bury the leaves, and a wet ſeaſon ſhould enſue, the plants will often be deſtroyed.

When your plants begin to ſhew their bloſſom, if dry weather ſhould happen, water them every other morning; and continue this while the weather is dry, or even till they are fit for gathering, which will be in April, or early in May, according to the nature of the ſituation or ſoil: For I have known the ſame rules obſerved in two different places at a ſmall diſtance from each other; the Peas have been ſown on the ſame day, have had equal luck during the winter, and yet one crop has been ripe above a fortnight before the other.

This, then, is the firſt crop of Early Peas on the natural ground: With regard to the others, they muſt be obtained by different ſowings at proper intervals. As for inſtance: A fortnight after the firſt ſowing, ſow again the ſame kind of Peas, or the Charlton, or ſome other of the Hotſpurs; repeat this every fortnight, or as often as you think you ſhall have occaſion for them to come in; and in this manner you may be ſupplied, the firſt part of ſummer, with what quantity of Peas you pleaſe.

In the beginning of January be ſure to ſow afreſh, leſt any of your former ſowings ſhould fail; and in February let as many as you pleaſe of your Dwarfs of all kinds, and thoſe of middle-ſized growth, be ſown. Theſe will ſucceed the others, will cauſe a variety at the table, and one or other of them will continue until the tall growing ſorts come in; though ſome people are ſo fond of the Early Hotſpur kinds, that they will continue the ſucceſſion by ſowing them alone at proper intervals.

About the middle of March ſow more Dwarf Marrow-Fats, with Sugar and Ledman's Dwarfs; for theſe are much admired, and are good bearers; and in April ſow all your tall growing ſorts, at a very great diſtance from each other. The tall growing Marrow-Fats, Rouncivals, Spaniſh Morottos, Greys, &c. ought not to be ſet nearer than two inches in the rows, and the rows ſhould be four feet aſunder. They muſt be well ſupported by ſticks ſoon after they come up, and they will arrive at a great height; and if care is taken in gathering the fruit (which ſhould be done with ſciſſars, or ſome ſuch inſtrument) the ſame crop will continue to afford a ſucceſſion of Peas above a month.

The laſt ſowing ſhould be made in May; and if it be the large growing ſorts that are ſown, you may expect to gather Peas from theſe crops until the froſt ſtops them; though ſome chuſe to ſow the Dwarf Marrow-Fat, Ledman's Dwarf, &c. about the end of May, which will be in eating about Michaelmas, when they alledge it is high time to cloſe the Pea ſeaſon.

During the growth of Peas, they muſt be conſtantly kept clean from weeds, and the mould muſt be drawn up to the ſtalks as they advance in height: You muſt not water any but thoſe deſigned for Early crops, elſe there will be no end of your labour. The taller growing kinds bear drought much better than the Dwarf ſorts; which is a ſtrong motive with many to ſow them only for autumnal uſe.

The two extremes with regard to the placing of Peas, have been given. The rows of none ought to be nearer than two feet, and the Peas ſhould be two inches aſunder: The rows of the talleſt growing ſorts ought to be at four feet, and four feet and an half diſtance; and the Peas at three, four, or five inches aſunder in the rows, according to their growth.

A perſon who is not deſirous of running great lengths in the culture of Peas, may have his table ſufficiently ſupplied by only four ſorts, which may be ſown at intervals as he pleaſes, viz. for the firſt crop, the Early Charlton; for the ſecond, the Dwarf Marrow-Fat; for the third, the Spaniſh Morotto; and for the laſt, the old Engliſh Rouncival. With theſe he may have his table well ſupplied from the beginning of ſummer until November; but where a perſon has a true reliſh for vegetable productions, he may raiſe as many of the other ſorts as his garden-room and pocket will admit of.

Of raiſing Peas on hotbeds.

Peas may be brought ſtill earlier to the table than the firſt ſort before-mentioned, by having recourſe to the hotbed. And in order to do this, let ſome of the true Dwarf kind be procured. Theſe muſt not be ſown directly on the hot-bed, becauſe it would force them too much at firſt, and cauſe them to run into ſtraw, without producing either bloſſom or fruit. In order, therefore, to train them properly for their hotbed promotion, let the ſeeds be ſown under a warm wall the beginning of October; and when they come up, draw the mould up to their ſtems, and uſe every art to prevent their being deſtroyed by froſt until the end of January.

Next prepare a hotbed, two feet thick, of freſh dung that has lain ſix or eight days to heat; cover it over with about ten inches of light, freſh earth, and put on the frames. The frames ſhould be two feet high behind, and fifteen inches in front; and after the glaſſes have been on them a day to heat the mould, they muſt be raiſed to let out the ſteam. In about three or four days, your bed will be in right order to receive the plants; then with a ſcooping-trowel take up the plants out of the border, with as much earth as poſſible to the roots; plant them in rows very cloſe together; let the rows be two feet aſunder; give them a moderate ſprinkling of water, place on the glaſſes, and ſhade them, and they will ſoon take root. When you find this is effected, the glaſſes muſt be raiſed whenever the weather will permit, to give them air; for if they are kept too cloſe, they will grow mouldy, and come to nothing. In nights, however, they muſt be conſtantly covered; and when the ſun ſhines hot in the day-time, they muſt be ſhaded: Sprinkle them with water frequently, though ſparingly at a time; and through their whole treatment train them up as hardy as poſſible; for this will cauſe them to produce fruit ſtronger, and in greater plenty. Draw the earth up to their ſtems, as they advance in height, in the ſame manner as is directed for thoſe ſet abroad; keep the beds clean from weeds, and in a very little time your Peas will be in bloſſom. They muſt ſtill have water but ſparingly until the fruit is ſet, when it ſhould be beſtowed on them in greater plenty; and in a very little time your Peas will be fit for the table.

Of raiſing Peas for ſaving the ſeed.

In order to raiſe Peas for ſeed, they muſt be ſown in March, in the ſame manner as was directed for the table. Two ſorts muſt not be ſtationed near each other, but muſt be allowed as much diſtance as the bounds of your garden will admit. The ſoil they are ſown in ſhould be as rich as poſſible; and this will diſtinguiſh the ſpurious from the true ſorts, before they come to flower. As for inſtance: If any of the Dwarf ſorts are to be raiſed, and ſome of higher growth ſhould happen amongſt them, they will *fly*, as the Gardeners term it, in a good ſoil, and quickly ſhew they belong to another family; whereas, if the ſoil had been naturally poor, the diſtinction, perhaps, would not be conſiderable enough to gain notice. Before they come to flower, therefore, look over your Peas, and pull up all that diſcover a tendency different from the ſort you intend to raiſe.

When your plants are in flower, go over them again; for many wrong ſorts, though of the ſame ſize, will appear among them. Theſe may be diſtinguiſhed by the bloſſom, or manner of fruiting, and muſt be carefully plucked up as ſoon as poſſible. In ſhort, the Gardener muſt be very careful to keep the ſorts true and ſeparate, by firſt ſowing them at a good diſtance from each other, and then carefully garbling them as often as there ſhall be occaſion; and by ſo doing, he will have the ſeeds quite perfect.

After all, ſeed Peas, like the Beans, muſt be changed every other year with ſome Gardener you can depend upon to have raiſed them with equal care with yourſelf; and in this manner you will, at leaſt, continue the ſorts in their original perfection, if not improve them.

If you ſhould at any time obſerve any Peas to diſcover a different tendency to any you know, place a ſtick by them, mark them for ſeed, and when they are ripe gather them, and keep them ſeparate. Sow them the ſpring following on a ſpot by themſelves; and if you find them to be a new Pea, or an improved ſort of any of the varieties you are acquainted with, ſow all the ſeeds another year, raiſe them with care, and when you have got a ſufficient quantity, diſperſe them abroad to ſeedſmen, &c. that the Public may reap the benefit of the improvement.

When the Peas are quite ripe, they muſt be cut up to the bottom, be laid in ſmall heaps, be conſtantly turned every day, and, when they are perfectly dry, may either be laid up in barns, or threſhed out for uſe. If they are threſhed out directly, it will be proper to ſpread the Peas upon a floor, and to turn and ſift them every day for a fortnight, before you put them up in bags.

Titles

The Pea is titled, *Piſum petiolis teretibus, ſtipulis infernè rotundatis crenatis, pedunculis multifloris.* In the *Hort. Cliffort.* it is termed, *Piſum ſtipulis crenatis.* Cammerarius calls it, *Piſum*; and Caſpar Bauhine, *Piſum hortenſe majus.* The varieties alſo have titles in old authors; ſuch as, *Piſum umbellatum*; *Piſum majus quadratum*; *Piſum ſine cortice duriore*, &c. It grows naturally in many parts of Europe.

CHAP. XXXVII.

PORTULACA OLERACEA, PURSLANE.

Species. THERE are two ſorts of Purſlane cultivated in our Kitchen Gardens: 1. The Green. 2. The Golden. Both of theſe are of very eaſy culture; and both are equally good for uſe.

Culture. Purſlane is of a cold nature, and ſhould only be uſed in the ſummer months; for which purpoſe, early in April let the ſeeds be ſown very thinly in a light, warm border. The ſeed is exceeding ſmall, for which reaſon it is a cuſtom to mix with it ſand or dry mould to prevent its being ſown too thick; rake the ſeed in; if the weather is dry, give the bed a pretty good watering; and continue it, if you find it neceſſary, every third evening. After the plants come up, nothing more is to be done than to keep them clean from weeds, to thin them where they appear too cloſe, and to water them every other evening if the weather proves dry, and in a very little time your plants will be fit for uſe.

Three weeks after the firſt, a ſecond ſowing ſhould be made in the like manner, and three weeks after that a third; and at ſuch intervals of ſowings Purſlane may be continued throughout the whole ſummer. By the end of Auguſt it will be proper to leave off ſowing of Purſlane, becauſe ſuch plants will not be fit for uſe before October, when it will be too late in the ſeaſon for ſome conſtitutions to eat Purſlane with ſafety.

If Purſlane is required very early, it is eaſily raiſed by ſowing of the ſeeds on a moderate hot-bed. They will then ſoon come up, and be ready for uſe in a few weeks.

Of ſaving the ſeeds. Purſlane ſeed is ſaved with no very great trouble. In order to it, nothing more is to be done than to leave a few of the ſtrongeſt plants of the firſt or ſecond ſowing for the purpoſe, and when you find the ſeeds are ripe to pull up the plants, and lay them on a mat in the open air and ſun to dry; which when you find effected, threſh them out, ſift and clean them, and afterwards put them up for uſe.

Titles. Purſlane is titled, *Portulaca foliis cuneiformibus, floribus ſeſſilibus*. In the *Hortus Cliff.* it is termed, *Portulaca foliis cuneiformibus verticillatis ſeſſilibus, floribus ſeſſilibus*. Caſpar Bauhine calls it, *Portulaca latifolia ſativa*; and Lobel, *Portulaca domeſtica*. It grows naturally in the hotter parts of America, Africa, and Europe.

CHAP. XXXVIII.

POTERIUM SANGUISORBA, BURNET.

Culture of Burnet. IN order to raiſe Burnet in perfection, let a quantity of good ſeeds be procured againſt the firſt week in September; then, having well dug a piece of ground open to the ſouth, and made the ſurface ſmooth and level, ſow the ſeeds on it with an even hand, and rake them well in. If the weather ſhould prove dry, water the bed every other evening, and in a little time the plants will come up. Weeds will intrude along with them: Theſe muſt be conſtantly cleared away; and the plants ſhould be thinned to about ſix inches diſtance from each other. In April the plants ſhould undergo a ſecond thinning, when they ſhould be left a foot aſunder. At this time all weeds muſt be carefully hoed down; and this work muſt be repeated as often as it is found neceſſary. If a dry ſpring ſhould happen, water your plants in evenings, and they will ſoon come in for uſe.

It is the leaves that are uſed: They are ſaid to be exhilarating; are admirable in ſallads, cool tankards, &c. and ſerve for many purpoſes in phyſick.

Freſh beds ſhould be made every year, for young plants are always the beſt. And in order to this, you ſhould let ſome of the fineſt plants remain for ſeeds, clearing the others that are near them away, that they may better enjoy the ſun and air in bringing their ſeeds to perfection.

The title of Burnet has been already given.

CHAP. XXXIX.

RAPHANUS SATIVUS, RADISH.

Varieties of the Radiſh. THERE is only one real ſpecies of the Sweet Radiſh, though the varieties are very great, and ſome of them are very different from each other. The beſt and moſt commonly cultivated ſorts are,

The Short Topped.
The Long Topped.
The Deep Red.
The Salmon.
The Sandwich.
The Turnep.
The White Spaniſh.
The Black Spaniſh.

The two laſt ſorts are leaſt cultivated of any; and it is with the others that the markets are chiefly ſupplied.

Culture.

Radiſhes are uſually eaten in the ſpring, though they may be brought to the table at almoſt any time of the year. And in order to have them in perfection in different ſeaſons, the times of ſowing muſt be various, and often repeated, that crop may ſucceed crop; for a crop is in fine eating but a very little time, they ſoon becoming large, ſticky, and good for nothing. Neither is this any very great grievance; for the ſeed is cheap, and a very ſmall bed will raiſe a large multitude of plants; ſo that the trouble of preparing ſuch a bed, and ſowing it at proper intervals, muſt be looked upon as trifling.

Of Early Radiſhes.

Let us begin, then, with Early Radiſhes. For this purpoſe the Short-topped Purple Radiſh muſt be always preferred, it being the hardieſt, firmeſt, and coming ſooneſt into eating from the ſeeds. Some good ſeeds of this kind muſt be ſown, the middle of October, on a freſh-dug bed, in a warm, well-ſheltered place. The ſurface of the bed muſt be made very fine; the ſeeds muſt be ſcattered thinly over it; about a quarter of an inch of fine mould muſt be ſifted over them; and when the beds are neated up, the firſt ſtep for Early Radiſhes is over. If the weather proves dry, it is neceſſary to give the ſeeds a ſprinkling of water the next day; and this being repeated every two or three days, in a little time your Radiſhes will come up. When they get into the rough leaf, they muſt be thinned to three inches diſtance from each other, pulling out or hoeing away the weakeſt plants. Weeds muſt be conſtantly cleared away, as they ariſe; and theſe Radiſhes, if they are not deſtroyed by the winter, will come into eating in February. But in order to enſure ſucceſs, the beſt way will be to ſow a few under an hotbed frame, to be covered in caſe very ſevere weather ſhould happen; and thus you may be certain of having this univerſally admired eſculent at that early ſeaſon. This, then, is the firſt crop of Radiſhes.

For the next crop, a ſecond ſowing ſhould be effected in the like manner in November; and a third ſowing ſhould alſo be performed in December: And thus they will ſucceed each other in the ſpring; and you may always have them firm, tender, and good.

About the middle of January let another ſowing be made, if you chooſe to continue the ſucceſſion: Indeed this is the ſeaſon that is chiefly practiſed by the Country Kitchen Gardeners for the ſupply of the markets with Early Radiſhes. After this ſowing, let another be performed in like manner the beginning of February, and repeat the operation every fortnight until April; and then lay aſide ſowing of Radiſhes for a long time.

In July you ſhould again ſow Radiſhes, if they are deſired in the autumn. The morning after ſowing them, give them a good ſprinkling of water; and if the weather proves dry, repeat this every other day, and your Radiſhes will come into perfection at that ſeaſon. Another ſowing ſhould be effected in Auguſt to ſucceed theſe; and if again another be made in September, ſuch Radiſhes will be in eating about Chriſtmas.

Theſe different ſowings reſpect the Common Eatable Radiſhes only. The Turnep Radiſh ſhould always be ſown in March; and you ſhould be content with one crop of it only, which will be in eating in May. The Spaniſh Radiſhes ſhould not be ſown until July. When theſe latter ſorts come up, the plants muſt be hoed, as you do Turneps, to five or ſix inches diſtance from each other. They are chiefly deſigned for autumn and winter uſe: And for the purpoſe of the latter, the roots ſhould be taken up in November, and laid by in ſand, as is the method practiſed for preſerving of Carrots.

The Deep Red and the Salmon are chiefly propagated for ſummer uſe. They love an open expoſure, and a light ſoil; and if the ground is well dug one full ſpade's depth, it is better than more; though ſome practiſe the method of double-digging the ground, in order to make room for the roots to ſtrike deep.

Radiſhes ſhould be pulled always in a morning, and laid in a cool place until dinner; and if the ſeaſon be dry, they ſhould have a good watering a few hours before they are taken up: And this is the way to have Radiſhes firm, and in perfection. They will then ſnap and not bend, which is a certain mark of a good Radiſh.

Kitchen Gardeners who live by their trade, and are obliged to make the moſt of their land, frequently ſow Carrots, Lettuce, or Spinach, with their Radiſhes; ſo that when the Radiſhes are drawn off, a crop may ſtill remain on the ground: But this ought never to be practiſed, unleſs you are certain that your Radiſhes will be drawn off when very young; for if they ſtand to be of large ſize, they will much injure the other crops, and neither of them be good.

Of raiſing good ſeeds.

In order to have good Radiſh ſeeds, let a piece of ground be prepared by digging it a ſpade's depth and an half; then on a moiſt day, in the beginning of May, or, for want of that, in ſome evening, let a ſufficient quantity of the largeſt, ſtraighteſt, unbranching, and beſt-coloured Radiſhes be drawn, and planted in lines, at two feet and an half diſtance from each other. If the weather proves dry, you muſt water them until they have taken root; and the weeds muſt conſtantly be hoed down as they ariſe. The Radiſhes will ſhoot up, and will ſoon occupy the whole ground, ſo as to make weeding unneceſſary. When the pods begin to turn brown, you muſt carefully guard againſt the birds, which otherwiſe would ſoon have the beſt ſhare of them. When you find the ſeed is ripe, cut up the ſtalks from the bottom; and if the quantity be ſmall, ſpread them upon mats; but if large, let them lie on the places where they were cut up for a few days to dry. When you find this is done, threſh the ſeeds out, and put them up in bags for uſe.

The mice are exceedingly fond of theſe ſeeds; ſo that it is neceſſary to guard againſt them, by laying them in places where they cannot come at them after they are ripe, as it was neceſſary before to ſecure them from the birds when they were in the pods. Radiſh pods, when they are about half ſize, are accounted excellent pickle.

Titles.

The Radiſh is titled, *Raphanus ſiliquis teretibus toroſis bilocularibus*. Old authors give titles to the different ſorts. Thus Caſpar Bauhine calls one ſort, *Raphanus minor oblongus*; another, *Raphanus major orbicularis ſive rotundus*; and a third, *Raphanus niger*. It grows naturally in China.

There is a new variety of this ſpecies, which I have not ſeen, called, *Raphanus Chinenſis annuus oleiferus*.

CHAP. XL.

ROSMARINUS, ROSEMARY.

Varieties of Roſemary.

THERE is only one ſpecies of this genus, but it admits of ſeveral varieties, viz.

The Common Round-leaved Roſemary.
The Narrow-leaved Roſemary.
The Silver-ſtriped Roſemary.
The Gold-ſtriped Roſemary, &c.

The two firſt varieties are preſerved in gardens for uſe; the latter as matter of curioſity; and indeed they are very beautiful plants, tolerably hardy, and in a dry, ſhady, well-ſheltered ſituation are highly proper to join in a collection of Variegated Evergreen plants. They are alſo proper for the Kitchen Garden, if the ſituation be tolerably dry and warm, as they anſwer all the purpoſes of the other ſorts in common uſe, and alſo afford great delight from the beautiful mixture of their colours.

Culture.

All the ſorts of Roſemary are tender, if planted in a moiſt ſoil. In ſuch a ſituation they generally periſh through hard froſts; but in a dry, ſandy, rubbiſhy ſituation, they reſiſt our ſevereſt colds: So that in order to enſure the ſafety of our Roſemary, we muſt prepare a bed proper for the plants, if nature has not already given us one; namely, by throwing together a large quantity of rubbiſh in a well-ſheltered place, ſuch as broken ſlates, tiles, brick-bats, fragments of old walls, ſand, &c. Having laid theſe level, cover them with about ſix inches depth of common garden mould. On this plant ſome good ſtrong ſlips of Roſemary, about the middle of March. Let them be ſet in lines a yard aſunder; and let the ſlips be a foot diſtance from each other in rows. Cloſe the mould well about them, give them a good watering, and repeat it every other evening until they have taken root. All ſummer keep the ground clean from weeds, and the ſpring following draw out the weakeſt plants, leaving the others two feet or a yard aſunder. Theſe drawn plants may be ſet in the common mould in any ſituation, and they will grow vigorouſly, and continue, perhaps, for many years; whilſt the others will remain impregnable againſt all weather, will be ever ready for uſe, and will afford good cuttings for a freſh plantation, in caſe larger quantities ſhould be wanted, and the others ſhould be deſtroyed by the froſts.

In order to preſerve the Striped ſorts in their beauty, you muſt take thoſe ſlips only that have the deepeſt ſtains of white and yellow. Theſe muſt be planted, like the others, in a dry rubbiſhy ſoil; and when they afterwards ſend forth green ſhoots, they muſt be taken away, or in a little time your plants will become plain.

Titles.

There being no other ſpecies of this genus, Roſemary ſtands with the name ſimply, *Roſmarinus*. Caſpar Bauhine calls the Broad-leaved ſort, *Roſmarinus ſpontaneus, latiore folio.* The Narrow-leaved kinds are, *Roſmarinus hortenſis, anguſtiore folio.* It grows naturally in Spain, the ſouth of France, Italy, and in the Eaſt.

Claſs and Order in the Linnæan Syſtem. The characters.

Roſmarinus is of the Claſs and Order *Diandria Monogynia*; and the characters are,

1. Calyx is a monophyllous, tubulous, bilabiated perianthium, that is compreſſed at the top, and has an erect mouth. The upper lip is entire, the lower bifid.

2. Corolla is a ſingle petal. The tube is longer than the calyx. The limb is ringent. The upper lip is erect, ſhort, and divided into two acute ſegments, whoſe edges are reflexed. The lower lip is reflexed, and divided into three ſegments; the middle one of which is large, concave, and narrow at the baſe; the lateral ones are narrow, and acute.

3. Stamina are two awl-ſhaped filaments, inclining towards the upper lip, and are longer than it, having ſimple antheræ.

4. Piſtillum conſiſts of a quadrifid germen, a ſtyle like the length and ſituation of the ſtamina, and a ſimple, acute ſtigma.

5. Pericarpium. There is none. The ſeeds are lodged in the bottom of the calyx.

6. Semina. The ſeeds are oval, and are four in number.

CHAP. XLI.

RUMEX ACETOSA, SORREL.

Varieties of Sorrel.

THERE are ſeveral ſorts of Sorrel; but the beſt for Kitchen uſe are,

The Round-leaved or French Sorrel.
The Barren Sorrel.

Culture.

The firſt two ſorts are propagated by the roots. The beſt time for this purpoſe is the beginning of March. The ground ſhould be well dug; and the plants ſhould be ſet in rows, at a foot diſtance every way from each other. They will readily take root, and in a little time produce leaves for uſe. The leaves of Sorrel are the only part of the plant that is uſed; ſo that, in order to have them young and fine, it will be neceſſary, when they grow old, to cut them cloſe to the ground, that young leaves may ſhoot up to ſucceed them. And that young leaves may never be wanting, it will be alſo neceſſary to repeat this work every three weeks; obſerving to perform the operation on part of the bed only, letting the others remain a little longer, that thoſe plants alſo may put up freſh leaves to ſucceed them.

Further: To have theſe two ſorts of Sorrel in full perfection, freſh beds ſhould be made, in the ſame manner as before, every other year.

The Common Sorrel of our meadows is thought by many to be ſuperior to the other ſorts, when meeting with proper Garden culture,

ture. In order therefore to have this ſort of Sorrel in perfection, provide yourſelf then a ſufficient quantity of ſeeds; and in the beginning of March ſow them thinly on a bed of common mould, and rake them in. When the plants come up, they muſt be thinned where they appear too cloſe, muſt be kept clean from weeds, and conſtantly watered in dry weather. By the time they are of ſize to be tranſplanted, a bed muſt be in readineſs for their reception. This ſhould be well dug, the ſurface made level, and the plants ſhould be ſet in rows, nine inches every way from each other. They muſt be well-watered until they have taken root; muſt be conſtantly kept clean from weeds; and this is all the culture they will require.

The beginning of March following, let freſh ſeeds be ſown for another bed, in the like manner; and continue this work every year, eradicating the old ones as the young plants come in to ſucceed them; for the leaves of ſuch plants will be always finer than thoſe collected from old roots.

Of ſaving the ſeeds.

In order to have a conſtant ſupply of ſeeds, a corner of a bed ſhould every year be ſuffered to run up for the purpoſe. When they are fully ripe, they ſhould be ſpread upon a cloth for a few days to dry, and afterwards put up in bags to be ready for uſe.

Its uſes.

Sorrel is become a principal ingredient in Soups, in the French method of cookery; for which purpoſe it is ſaid to be propagated in amazing quantities in moſt parts of France.

Titles.

The title of Sorrel is, *Rumex floribus dioicis, foliis oblongis ſagittatis*; Caſpar Bauhine calls it, *Acetoſa pratenſis.* The varieties of this ſpecies have been titled by old Botaniſts; ſuch as, *Acetoſa pratenſis, flore albo*; *Oxalis criſpa. Acetoſa montana maxima*; *Acetoſa montana, latiori folio rotundo*; and the like. It grows naturally in moſt parts of Europe.

CHAP. XLII.

RUTA GRAVEOLENS, RUE.

THERE are many ſorts of Rue cultivated in gardens, all of which are comprehended under the ſpecies called, Rue with decompound leaves.

Varieties of Common Rue.

By this is meant the Common Rue of our Kitchen Gardens; and the varieties of it are,

Broad-leaved Garden Rue.
Great Wild Rue.
Smaller Wild Rue.
Broad-leaved Aleppo Rue.
Narrow-leaved Aleppo Rue.
Large African Rue.
Striped-leaved Rue.

Culture.

All theſe are eaſily propagated by planting the ſlips or cuttings, in the ſpring, in a ſhady border. They muſt be watered until they have taken root, ſhould be kept clean from weeds all ſummer, and in the autumn ſhould be removed to the place where they are deſigned to remain. This ought to be in a dry, well-ſheltered place, as the plants are apt to be deſtroyed by ſevere froſts in a moiſt ſituation.

They are alſo propagated by ſowing of the ſeeds in the ſpring. Theſe will readily come up, and, when they are of ſize to be tranſplanted, muſt be removed, like the cuttings, to the places where they are deſigned to remain; which may be either ſingly in different parts of the garden, or in rows, at two feet diſtance from each other every way.

The two ſorts of Aleppo Rue are ſhrubby plants with leaves of a fine green colour, and are very proper to mix with others in the Wilderneſs, provided the ſituation be dry and well defended, otherwiſe they will be liable to be killed by an hard winter.

The Striped-leaved ſort is propagated by thoſe who are fond of variegated plants. It may be propagated in the Kitchen Garden for uſe as well as beauty, ſince its virtues can hardly be ſaid to be inferior to the Plain ſort; but it muſt have a very dry, hungry ſoil, or it will run away from its colours.

Titles.

Rue is titled, *Ruta foliis decompoſitis, petalis laceris floribus lateralibus quadrifidis.* The different titles among old authors reſpecting the varieties, are thus: *Ruta ſylveſtris major*; *Ruta hortenſis latifolia*; *Ruta hortenſis altera*; *Ruta graveolens hortenſis*; *Ruta Chalepenſis tenuifolia, florum petalis villis ſcatentibus*; *Ruta hortenſis latifolia arbuſculæ ſimilis*; and *Ruta Africana maxima.* They grow naturally in the ſterile parts of Africa, Aſia, and the ſouth of Europe.

CHAP. XLIII.

SALVIA OFFICINALIS, SAGE.

THE uſes of Sage are innumerable; and the plant is ſo univerſally cultivated, that there is hardly a garden in Europe without it.

There are many ſorts of it, all of which are of admirable virtue, and contribute much, as the name ſignifies, to the *Health of Life.*

Varieties of Sage.

The principal varieties of this moſt excellent plant are,

The Broad-leaved Green Sage.
The Broad-leaved Hoary Sage.
The Narrow-leaved Sage.
The Wormwood Sage.
The Lavender-leaved Sage.
The Red Sage.
The Sage of Virtue.
The Variegated Green Sage.
The Variegated Red Sage.

The culture of all theſe is exceedingly eaſy, and the uſual method is by planting of the ſlips; but as it is obſervable that the beſt and moſt finely-ſcented plants are raiſed from ſeeds, I ſhall give directions for raiſing of Sage that way, before I proceed to the more common practice of planting the ſlips.

Of raiſing Sage from ſeeds.

In order to raiſe Sage from ſeeds, then, let the ground be well prepared by good digging and breaking of the clods; and if the ſoil is not naturally light and dry, let ſome fine mould be brought to receive the ſeeds, and let the beds be raiſed five inches above the common level.

In the firſt week of April ſow your ſeeds thinly, and with an even hand, and cover them with about a quarter of an inch depth of the fineſt mould. If your ſeeds are good, your plants will readily come up; and, to encourage their growth, frequently give them water, and pull up all weeds as they ariſe. When the plants are of ſize to remove, draw out the largeſt, leaving the others to gain ſtrength, and plant them out, at two feet diſtance from each other, in a piece of good, light, dry ground that has been double-dug. As the ſtems encreaſe in ſize, plant them out in the like manner, leaving nevertheleſs a ſufficient quantity in the ſeed-bed to remain undiſturbed. The plants remaining in the ſeed-bed ſhould be a yard diſtant from each other; for unremoved plants will grow larger than thoſe that have been tranſplanted.

Of ſaving the ſeeds.

The leaves of both ſorts will be exceedingly large and fine; and to heighten their flavour, dig between the rows in the winter, keep the ground clean from weeds, and water the plants in very dry weather.

Thus will your crop be brought to perfection. In order to continue the ſucceſſion in the like manner, ſome of the fineſt plants ſhould be left untouched for ſeeds. Theſe, juſt as they go into flower, muſt be watered; and the watering muſt be duly repeated every other evening, if the dry weather makes it neceſſary, until the ſeeds are nearly at their full growth, when watering ſhould be left off; for the ſeeds will then harden, and ripen better without it.

When you find your ſeeds are ripe, pull up the plants, and ſpread them for a few days to dry; then beat out the ſeeds, and having ſpread them upon a cloth or table until they are ſufficiently hardened, put them up in bags to be ready for uſe.

A freſh crop ſhould be raiſed in the like manner every year; and the ground ſhould be changed, if you would chuſe to have your Sage every year in the like perfection.

Of raiſing Sage by ſlips.

In the firſt week of May prepare a piece of ground by good digging, breaking of the clods, &c. and in an evening, having provided yourſelf with a ſufficient quantity of good ſlips, plant them in lines, at about four inches diſtance from each other; give them a good watering, and continue it every evening, if the dry weather makes it neceſſary, until they have taken root. They will ſoon after that be of proper ſize to be planted out for good; againſt which time, let a piece of ground in a dry, warm part of the garden be double-dug for their reception: Then having taken up the plants, with a ball of earth to each root, plant them in rows, a foot and a half or two feet diſtant from each other; water them until they have taken freſh root, and keep them clean from weeds; in the winter dig between the rows; and in the ſummer following the plants will be fit for uſe.

Titles.

Sage is titled, *Salvia foliis lanceolato-ovatis integris crenulatis, floribus ſpicatis, calycibus acutis.* Caſpar Bauhine calls it, *Salvia major.* The varieties of it have titles among old Botaniſts: Thus the Sage of Virtue is termed, *Salvia minor aurita & non aurita*; the Broad-leaved ſort, *Salvia latifolia*, &c. It grows naturally in the Southern parts of Europe.

CHAP. XLIV.

SALVIA SCLAREA, CLARY.

Culture of Clary.

CLARY is a biennial plant, and eaſily raiſed by ſowing of the ſeeds. The beſt time for this is the beginning of April. The expoſure ſhould be open; the ground ſhould be well-worked, and laid out in beds in proportion to the quantity of Clary to be raiſed; the ſurface ſhould be made ſmooth, the mould fine, and after that the ſeeds ſhould be thinly ſown with an even hand, and a quarter of an inch of the fineſt mould ſifted over them. This being done, neat up your beds, and, if dry weather ſhould happen, water them every third evening, and it will ſupply the room of natural ſhowers in bringing up your ſeeds.

When the plants come up, thin them where they appear too cloſe, drawing out the weakeſt, and leaving the reſt at about three inches diſtance from each other; keep the beds conſtantly weeded, water the plants in dry weather, and they will ſoon be of proper ſize to aſſume their next ſtation.

For this purpoſe let a piece of ground be well dug in a dry part of the garden, and on this ſet your Clary plants in rows, two feet diſtant from each other every way. They muſt be removed with the greateſt care, preſerving a ball of earth to each root; they ſhould be watered at the time of planting; and this watering ſhould be repeated until they have taken good hold of their new ground.

After this, they will require no trouble, except keeping them clean from weeds. They will ſoon become large and fine plants; the leaves will be fit for uſe by about Auguſt or September, and will continue good through the winter. In the ſpring they will ſhoot up to flower, when a few of the beſt plants only ſhould be left for ſeeds, and the reſt dug up and thrown away.

In very rich ground, two feet and an half will not be too great a diſtance for Clary plants; and in a poor ſoil they need not be ſet further than a foot and an half from each other; obſerving always to let them have a dry part of the garden, as they are ſubject to rot in the winter, in a moiſt ſituation.

The titles of Clary have been given before.

CHAP. XLV.

SATUREJA HORTENSIS, SUMMER SAVORY.

Culture of Summer Savory.

IN order to raiſe Summer Savory for uſe, let a bed of a ſize in proportion to the quantity wanted be well dug, and the ſurface made fine and ſmooth. The firſt week in April is the beſt ſeaſon for the work; and if the weather ſhould prove dry, give the whole ground a good watering in the morning, and in the evening ſow the ſeeds thinly over it with an even hand. Rake them well in, and after the plants come up, thin them to about three inches diſtance from each other. At this time deſtroy the weeds, and in about three weeks after your plants will be ready for a ſecond thinning, when they ſhould be left about nine inches aſunder. Deſtroy all weeds as they come up, and your plants will ſoon arrive at their full perfection, when they may be drawn as they are wanted; obſerving always to leave a ſufficient number of the fineſt plants for ſeeds.

The titles of Savory have been already given.

CHAP. XLVI.

SATUREJA MONTANA, WINTER SAVORY.

Culture of Winter Savory.

WINTER Savory is beſt raiſed by ſowing of the ſeeds the firſt week in September. The ground ſhould naturally be light and dry; it ſhould be well dug, and the ſurface made level and ſmooth. If very dry weather ſhould happen at that time, good watering ſhould be beſtowed on it in the morning, and in the evening it will be in fine order to receive the ſeeds.

Sow theſe thinly with an even hand; rake them in; and if no rain happens, water the beds every third evening until the plants appear. After they come up, continue the watering, if dry weather makes it neceſſary; deſtroy all weeds, and thin the plants to four inches diſtance from each other. In the ſpring freſh weeds will ariſe: Let theſe be pulled up, and at the ſame time thin the plants to ten inches diſtance.

If dry weather happens, as it often does in April, at proper intervals afford your plants a good watering, repeat the weeding as often as you find it neceſſary, and in a little time your plants may be cut for uſe.

The Summer Savory is an annual: This is a perennial; nevertheleſs, to have Winter Savory in perfection, freſh beds ſhould be made every two or three years, as young plants always produce the fineſt ſhoots.

The titles of Winter Savory have been given in a former Book.

CHAP. XLVII.

SCANDIX CEREFOLIUM, CHERVIL.

Culture of Chervil.

CHERVIL is a garden-herb for winter-ſervice, and its culture is very eaſy. In the beginning or middle of Auguſt prepare a bed for the reception of the ſeeds by well digging, breaking the clods, and laying the ſurface level. Any part of the garden will do for the purpoſe; for Chervil is exceedingly hardy, and diſdains no ſoil or ſituation. The bed ſhould be of a ſize in proportion to the quantity of Chervil you would chuſe to raiſe, and the ſeeds ſhould be ſcattered thinly and evenly over it, and then well raked in. In September the plants will come up, when it is cuſtomary to thin them to three inches diſtance from each other, and to deſtroy the weeds; and in October or November, to give them a ſecond thinning, making a ſpace of ten inches from plant to plant. This is all the trouble they will require. They will continue green all winter, and are in eating from November to April, when they ſhoot up to flower; though they are ſaid to be in the greateſt perfection in March.

Of raiſing the ſeed.

Some of the ſtrongeſt plants ſhould be left for ſeeds. Theſe will be ripe in June, when they ſhould be gathered, ſpread upon a cloth in an airy place, and when they are ſufficiently dry, put up in bags to be ready for uſe.

Titles.

Chervil is titled, *Scandix ſeminibus nitidis ovato-ſubulatis, umbellis ſeſſilibus lateralibus.* This is, *Chærophyllum ſeminibus lævibus, umbellis ad nodos ſeſſilibus. Bœhm. Lipſ.* 492. Caſpar Bauhine calls it, *Chærophyllum ſativum*; and Dodonæus, *Chærefolium.* It grows naturally in many of the Southern countries of Europe.

CHAP. XLVIII.

SCORZONERA.

SCORZONERA is a generic name comprehending the different ſpecies of Vipers Graſs, the roots of which are chiefly eſculent; but that ſort which is more eminently ſo, is the Broad ſinuated-leaved Vipers Graſs, called among Gardeners ſimply,

Scorzonera.

Culture of Scorzonera. This is raiſed in the Kitchen Garden, for the ſervice of the table, in the following manner: Againſt the end of March, or the beginning of April, be furniſhed with a ſufficient quantity of ſeeds; and having prepared a rich part of the Kitchen Garden for their reception, by double-digging of it, breaking the clods, and laying the ſurface ſmooth and even, draw lines at a foot diſtance from each other; then with a hoe open the ground the whole length, and in theſe rows place your ſeeds half a foot aſunder; cover them up with the fineſt mould; and if all the ſeeds grow, every other plant ſhould be taken away; for theſe plants ought not to be nearer to each other than a foot every way.

After the plants come up, they will require no trouble, except keeping them clean from weeds, and thinning them to the above diſtance. About September the roots will be grown to be very large, and the leaves will decay: Then is the time they are come into eating; and they may be drawn as they are wanted, from that ſeaſon until the ſpring following, when they will begin to ſhoot up for flowering. The roots become good for nothing.

At this time a few of the beſt plants ſhould be left for ſeeds, and the reſt ſhould be dug up and thrown away.

The titles of the different ſorts of *Scorzonera* have been inſerted in a former Book.

CHAP. XLIX.

SINAPIS, MUSTARD.

OF Muſtard, there are three real ſpecies which grow wild in many parts of England, but which are nevertheleſs cultivated in ſome gardens, viz.

Species.

1. The White Muſtard.
2. The Common Black Muſtard.
3. The Early Field or Wild Muſtard.

The firſt ſpecies is raiſed to join with other ſallad-herbs, when it is in the ſeed-leaf; the others are propagated for the ſake of the ſeeds, which afford the Muſtard.

Culture of Muſtard. 1. White Muſtard. This ſpecies is raiſed for ſallading by ſowing the ſeeds in drills, at a ſmall diſtance from each other; and in order to continue it for a long time, freſh ſowings at proper intervals muſt be obſerved. Let the early ſpring-ſowings be made on a warm border, under a ſouth wall or hedge, in the ſummer; ſow the ſeeds in the open ground, or in the ſhade; and in winter they muſt be ſown in hotbeds to bring them forward for uſe. When the ſeed-leaves are fully expanded, or, at furtheſt, when they have got three leaves, they ought to be cut for the table, otherwiſe they will be too ſtrong for uſe: And this teaches us to make freſh ſowings at an interval of about five or ſix days, as long as there ſhall be occaſion for this ſmall ſallad-herb.

The other two ſpecies are raiſed only for the ſake of the ſeeds for Muſtard. The ſecond ſort is the Common Muſtard, and the third produces what is called the Durham Flour of Muſtard-ſeed. They grow wild amongſt corn, or by way-ſides, in many parts of England, and are ſought for by the poor people for ſale; but as at a ſmall trouble and expence a very large quantity of Muſtard-ſeed may be raiſed in the Kitchen Garden or Field, I ſhall give the method of raiſing of Muſtard-ſeed in thoſe places.

Method of raiſing Muſtard-ſeed in a Garden or Field. March is the beſt month for ſowing of the ſeeds; and if a ſmall ſpot only is to be occupied by it, the ground ſhould be well dug: If a large quantity of Muſtard-ſeed is to be raiſed for ſale, ploughing of the ground, and well-harrowing it, to make the ſurface ſmooth and even, may be ſufficient.

In either caſe, ſow the ſeeds with an even hand, and rake or harrow them well in with a light, ſhort-tined harrow. The plants will readily come up; and when they have got about ſix leaves, they ſhould be hoed like turneps, leaving them at about a foot diſtance from each other. This hoeing ſhould be always performed in dry weather, the more effectually to kill the weeds; and if they ſhould afterwards ariſe ſo faſt as to incommode the plants, they muſt be hoed up, and deſtroyed. This is all the trouble they will require until the plants are ready to be cut up, which ſhould always be when the pods have changed brown. After the plants are cut, or pulled up, they ſhould lye a few days to dry; and when you find the ſeeds are ſufficiently hardened and ripe, you may then threſh them out, and put them up in bags for uſe.

The Common Black Muſtard is the talleſt growing plant; on which account it ought to be allowed rather a larger diſtance than the others; and though one hoeing only is mentioned for a crop, which in general will be ſufficient, yet if the land is foul, and weeds come up in plenty, the hoeing muſt be repeated as often as there ſhall be occaſion to deſtroy them.

Titles. 1. White Muſtard is titled, *Sinapis ſiliquis hiſpidis, roſtro obliquo longiſſimo.* Caſpar Bauhine calls it, *Sinapi apii folio*; John Bauhine, *Sinapi album ſiliquâ hirſutâ, ſemine albo vel rufo*; Dodonæus, *Sinapi ſativum alterum.* It grows naturally in England, and other parts of Europe.

2. The Common Black Muſtard is titled, *Sinapis ſiliquis glabris apice tetragonis.* Caſpar Bauhine calls it, *Sinapi rapi folio*; John Bauhine, *Sinapi ſiliquâ latiuſculâ glabrâ, ſemine rufo, ſive vulgare*; Gerard, *Sinapi ſativum ſecundum.* It grows naturally in England, and moſt of the Northern countries of Europe.

3. Wild Muſtard is titled, *Sinapis ſiliquis multangulis toroſo-turgidis roſtro longioribus.* Caſpar Bauhine calls it, *Rapiſtrum flore luteo*; Gerard, *Rapiſtrum arvorum.* It grows naturally in moſt parts of Europe.

CHAP. L.

SIUM SISARUM, SKIRRETS.

THE roots of Skirrets are large, oblong, thick, tender, and collected into bunches: They have a ſweet taſte, which to many is highly reliſhing, to others very diſagreeable, and therefore cauſes the culture of this plant to be partial. They are reckoned, however, exceedingly wholeſome; and ſuch as are deſirous of propagating Skirrets, muſt uſe the following method:

Culture of Skirrets from off-ſets,

About the latter end of March, or the beginning of April, let your ground, if it will bear it, be double-dug, well-worked, and the ſurface laid ſmooth and level: Then having provided yourſelf with a ſufficient number of off-ſets, or ſingle roots, taken from the general heads, plant them in rows, a foot aſunder, all over the ſpot; ſet them in an upright poſition, rake the mould level over their tops or buds, and the buſineſs is done. The plants will ſoon come up, and plenty of weeds along with them: Theſe muſt be carefully hoed down; and this work muſt be repeated as often as they ariſe to make it neceſſary. By the autumn, each root will be grown into a large bunch, and your ſkirrets will then come into eating: They will continue good all winter, and may be taken up as they are wanted.

In the ſpring, juſt before they begin to ſhoot, another bed is to be made in the like manner: And thus, by ſaving ſome of the fineſt roots to furniſh you with off-ſets for that purpoſe, a conſtant ſupply of Skirrets, during the time they are in ſeaſon, may be ever had.

Skirrets are alſo raiſed by ſeeds; but this is a method not worth putting into practice, as the roots are ſeldom ſo large and tender as thoſe propagated the former way.

and from ſeeds.

Let ſuch, however, as are deſirous of raiſing them this way, well dig the ground, and rake the ſurface level; then in March, being provided with ſome good ſeeds, ſow them with an even hand, and rake them in. In about five weeks your plants will come up; and ſoon after, they muſt be hoed in the manner of turneps, thinning them to about ſix or eight inches diſtance from each other, according to the goodneſs of the ſoil. As the weeds ariſe, they muſt be conſtantly hoed down, until the leaves of the plants ſpread ſufficiently to defend themſelves. In the autumn, when the leaves decay, the roots will be fit for uſe, and continue good until they begin to ſhoot up for flowering the ſpring following.

Titles.

This ſpecies is titled, *Sium foliis pinnatis, floralibus ternatis.* Caſpar Bauhine calls it, *Siſarum Germanorum*; Dodonæus, *Siſarum.* It grows naturally in China.

CHAP. LI.

SOLANUM LYCOPERSICUM, TOMATOES.

The general name.

BY *Tomatoes* we mean the *Love Apples* already deſcribed among the Annual Plants. The word is Spaniſh, and is uſed in Italy and all the ſouthern countries of Europe to expreſs this fruit. From them we have learnt the uſe of it; for before, we held it unwholeſome; nay, even poiſonous; and from them we have adopted the name by which they expreſs it; ſo that the names *Love Apples* or *Mad Apples* are now grown uſeleſs, eſpecially when talking of the Kitchen Garden produce: The faſhionable term to expreſs them is *Tomatoes.*

Species.

There are ſeveral ſorts of this ſpecies; but one only ſeems worth cultivating for the uſe of the Kitchen Garden, and that is the well known ſpreading, pinnated, hairy ſort, with large, compreſſed, furrowed fruit. The culture of this is chiefly attended to in Italy, Portugal, and Spain, where the fruit is not only in great requeſt for the heightening of their ſoups and ſauces, but the inhabitants eat them as we do Cucumbers, with oil, pepper, vinegar, and ſalt. The latter practice is at preſent little uſed by the Engliſh; and the uſe we make of them is to join in ſoups, to which they afford a very agreeable acidity.

Culture.

They are raiſed by ſowing the ſeeds thinly on a moderate hotbed, in March. There is no occaſion to tranſplant them when they come up to another hotbed, as is commonly practiſed; for they will be forwarder without it, as they are always much retarded in their growth by being removed ſo very young as is uſually recommended. In this hotbed, therefore, let them remain, conſtantly giving them water, and as much air as the weather will permit, until May; then, on a moiſt day, or for want of that in ſome evening, let the plants be taken up, with a ball of earth to each root, and let them be planted in the places where they are deſigned to grow. The diſtance they ſhould be allowed, ſhould be a yard from each other. The ground ſhould not be over-rich; for this will cauſe them to be too rambling, and leſs productive of fruit; and the plants will alſo be later in the ſeaſon before they bring their fruit to perfection. The ſituation ſhould be naturally warm; for this will cauſe the plants to ripen their fruit earlier: And to aſſiſt them in this, they ſhould not be ſuffered to lie upon the ground, but ſhould be ſupported by ſticks, as they advance in height; or if they are nailed up to a ſouth wall, it will be ſo much the better.

If this latter method be practiſed, you may expect to gather ripe fruit in July; and the juices being corrected by the ſun's warmth, the fruit will be more wholeſome to be eat as Cucumbers, &c.

From the firſt coming-in of this fruit, the plants will not fail to afford a ſucceſſion until the early froſts advance, to which they immediately give way.

Titles. This ſpecies is titled, *Solanum caule inermi herbaceo, foliis pinnatis inciſis, racemis ſimplicibus.* Caſpar Bauhine calls it, *Solanum pomiferum, fructu rotundo ſtriato molli*; Cammerarius and others, *Pomum amoris.* It grows naturally in the warm parts of America.

CHAP. LII.

SOLANUM TUBEROSUM, POTATOE.

Remarks. THE Potatoe is a native of Peru; and, tho' ſo remarkable and profitable an eſculent, ſeems to have been unknown to all the world leſs than 200 years ago. We received it into our Gardens, in the laſt century, by the name of *Batatas*, the barbarous expreſſion of its native country for theſe plants; which we have politely altered to Potatoes, the word by which theſe eſculents are properly known.

They are univerſally admired. High and low, rich and poor, covet them at their tables. In Ireland, and ſome other countries, they are become the ſtaple ſuſtenance of the common people. With the former they ſeem perfectly to agree; though all will not allow them to be entirely wholeſome; and a dullneſs is ſaid to attend the conſtant eating of them. Moſt allow that they are a clog to genius; and the Iriſh, who are undoubtedly hardy in the field, are ſaid to be an heavy ſort of people, probably on account of their immoderate uſe of Potatoes.

There are three ſorts of Potatoes:

Species. The White.
The Common Red.
The Purple.

The Common Red, or Purple Potatoe is by far the beſt; though the White, which has been but lately introduced into our Gardens, comes in earlier; on which account it is chiefly propagated.

Culture. Potatoes are eaſily raiſed from ſeeds; but as they propagate themſelves very faſt by the roots, a perſon would be laughed at, who ſhould be found putting that method into practice; however, for the ſake of experiment, it ought to be done by thoſe who have leiſure. The White Potatoe is a ſeminal variation of the Red. The flower is allowed to be different; and if a perſon who thirſts after improvements, and has leiſure for experiments, were to plant ſome of the faireſt roots of the different-coloured ſorts, or thoſe of a remarkable delicacy, for the ſake of gathering the ſeeds to ſow, he would probably have ſome of different tinges in colour, and others of heightened flavour in taſte; which might be continued and encreaſed by propagation from the roots in the common way. If his endeavours ſhould not prove ſucceſsful, he will certainly have a crop of Common Potatoes for his reward. All the while, he will enjoy the pleaſure ariſing from expectation; and his zeal and induſtry muſt be commended by all lovers of improvements in Agriculture and Gardening.

Whoever has leiſure for theſe experiments, let him ſow the ſeeds, the beginning of April, on a bed of light, freſh earth. When the plants come up, keep them conſtantly clean from weeds; and in the autumn, before the froſts come on, take them out of the ground, and preſerve them in ſand all winter. In the ſpring, plant them again, in the manner hereafter directed; and by the autumn following, they will have made amazing increaſe, and will be fit for uſe.

But to proceed in the regular method of propagating Potatoes: Proper land for the purpoſe muſt be pitched upon; for the culture will not be anſwerable to your expectation in all ſoils. A good rich ſoil is generally allowed to be the beſt: But this ſhould be conſidered comparatively; for in an over-rich, fat, black earth, your plants will run all into ſtraw, and there will be no roots; whilſt in an hungry, poor ſoil, you may expect from your planting neither ſtraw nor roots. A middling ſoil, therefore, in good heart, is the beſt; and if it be naturally rather poor, a good dunging ſhould be beſtowed upon it early in the winter, before the plants are ſet: But if it be a freſh ſoil, and the ſward is dug or ploughed in, no dung for this firſt year will be wanted, and your increaſe will be amazing; for they proſper beſt in a freſh ſoil. The ſituation ſhould not be too moiſt nor too dry; and in this medium they always ſucceed beſt, though I have known admirable crops of Potatoes on the top of an high hill: If the land deſtined for them is over-wet, it may be helped by proper ditches to drain off the redundant moiſture.

Having fixed upon your ſpot, and having a ſufficient quantity of the largeſt and faireſt roots ready for planting, let the ground be well dug over about the middle of March, and then with a line plant your Potatoes whole in rows, rather better than half a foot deep, and at two feet diſtance from each other. The earth muſt be taken out with the ſpade, and a man following muſt lay in the Potatoe, which muſt be immediately hilled up; and this muſt be repeated until the whole are planted. It is a common method to plant ſmall roots, or to cut the large ones to pieces, leaving an eye to each bit: But this is a very bad practice; for the ſmall roots will be ſucceeded again by proportional ſmall Potatoes; whilſt roots divided into pieces often rot, eſpecially if much wet happens ſoon after their being planted. But by planting the Potatoes whole, no danger of this ſort is to be apprehended: The crop will be greater, by being planted at ſuch diſtances, than if the ſame number of Potatoes had been divided into eyes, and ſet nearer; for as every eye from the whole root will ſhoot, the roots will be larger, and the whole crop of greater value.

It muſt be confeſſed, that amazing quantities of good roots have followed the planting of ſmall ones, or bits of roots with the eyes to them; yet upon trial, every one will be convinced how much more preferable the way is to plant the roots whole, at two feet aſunder: The Potatoes will go as far, as if cut into pieces and planted cloſer; and the roots that ſucceed them will be more numerous, and of larger ſize.

When planted, they will require no trouble until the time of taking up, except that of hoeing the weeds down as they ariſe between the rows: This muſt be repeated until their own ſtalks begin to fall; and after that, no weeds will preſume to rear up their heads among them.

The middle of March for the planting theſe roots is not too ſtrictly to be attended to. If the ſoil is dry, warm, and in a well-ſheltered place, they may be ſet earlier; and where theſe advantages are wanting, it would be adviſeable not to plant them until the beginning of April; for if the froſts come at them after they are planted, it will effectually deſtroy them: So that this ſhould be your rule: You may plant them as ſoon as you think there is no danger to be apprehended from the froſts coming near them; and until you are probably aſſured ſuch danger is paſt, you muſt defer the work. People who are fond of Early Potatoes begin to take them up as ſoon as they can find them. They are certainly moſt acceptable when moſt ſcarce; but the moſt profitable way would be to let all remain until the autumn, when the ſtalks are withered. They will then be grown to their proper ſize and quantity; and this is the time for taking them out of the ground.

After this, they muſt be laid by in a dry place, and ſand or dry mould laid between them. This place muſt be ſo ſecured, that the hardeſt froſt cannot come near them; and thus they will be in eating all winter, and the following ſpring.

Method of planting Potatoes in fields.

If large fields are to be planted with Potatoes, the ground ſhould be well ploughed in September or October, and ſoon after that ſhould be ploughed croſs-ways to break the clods, and make the mould as fine as poſſible. Theſe plowings muſt be as deep as the ſoil will permit; and in March they muſt be ploughed over again, and the ſurface laid as even as poſſible. This being done, let it be well harrowed to make it ſmooth; then plant your Potatoes in the manner before directed, and before they come up, harrow the ground over to kill the weeds, and break the ſurface of the ground in order to encourage the growth of the plants. As the weeds come up, hoe them down until the plants themſelves overpower them; and in November take them up, and ſecure them for winter uſe, like the others.

CHAP. LIII.

SPINACIA, SPINACH, or SPINAGE.

Species.

THERE are two ſorts of Spinage cultivated in our gardens, called,

1. The Round Spinage.
2. The Prickly Spinage.

The firſt ſort is chiefly cultivated for ſummer, the ſecond for winter, uſe. Spinage is preferred by many to all other ſorts of Greens; and thoſe who are not ſo extraordinarily fond of it, acknowledge its excellence in Soups and other culinary uſes, and love to ſee Spinage at their tables for the pleaſure of thoſe who may like it better.

Spinage may be had at all times of the year in the two ſorts by different ſowings. We will begin with,

Culture of Round Spinage.

1. The Round Spinage. The leaves of this ſort are oval, ſmooth, and of a thickiſh conſiſtence. In order to have it in perfection, let ſeeds be gathered from the largeſt, healthieſt, and moſt ſucculent plants; and in January, having prepared a bed for their reception, ſow them with an even hand, and rake them in. The plants will ſoon come up; but when they are nearer than three inches to each other, the weakeſt ſhould be pulled or hoed out; the weeds alſo ſhould be conſtantly deſtroyed as they appear: And this is all the management they will require until the plants begin to meet. By that time, the Spinach will be fit for the table; and as a ſecond thinning muſt be then made, the plants muſt be drawn as they are wanted, conſtantly thinning of the bed until the plants are ſix inches aſunder. The remaining plants, even at this diſtance, will ſoon be too cloſe; ſo that the weeds muſt be well hoed down, and another thinning muſt be made, leaving the plants nine inches aſunder: After that, the whole crop ſhould be cleared off, unleſs you chuſe to let the ſtrongeſt plants remain for ſeeds.

In February, let another ſowing be made in the like manner, and in March a third; and ſo keep ſowing the Round Spinage every month until Auguſt, when the time for ſowing the Prickly Spinage comes on. The ground ſhould be rich, and naturally moiſt; and for want of this, the Spinach ſhould be watered if the ſeaſon ſhould prove dry, otherwiſe the leaves will be ſmall, and the plants will ſoon run into ſtalk.

Culture of Prickly Spinage.

2. Prickly Spinage has large triangular, or arrow-ſhaped leaves, which are not of ſo thick a ſubſtance as the former, but are much hardier to endure the cold of our winters. In Auguſt, therefore, prepare your bed for their reception; immediately after ſowing them, give the bed a good watering; and repeat this every other evening if the ſeaſon ſhould prove dry, otherwiſe the greateſt part of your ſeeds will remain inactive until the autumnal rains cauſe them to vegetate, which ſometimes does not happen until very late in the ſeaſon. Where the weeds ariſe,

they muſt be hoed down; the plants alſo muſt be cut up, leaving thoſe for the crop at four inches aſunder, and keeping them clean from weeds: This will be all the after-management they will require.

A repetition of the ſowing of this ſort will be unneceſſary, if you are careful in gathering the leaves for uſe. Theſe muſt be always the outermoſt leaves; which being taken away, make room for the others to expand themſelves, and grow larger; and theſe being alſo taken away, others will be produced in the like manner: Thus your table may be ſupplied from this ſingle bed, if it is large enough, from October until the Spring Spinage comes in to ſucceed it.

Many prefer the ſowing of Spinage in drills; which is a very good way, as it can with greater eaſe be kept clean from weeds; but the plants will never be ſo large and fine as thoſe growing ſingly at proper diſtances, in the way above directed.

Of ſaving the ſeeds.

If you are curious in your Spinach ſeed, mark the beſt plants of both the ſorts, and let them ſtand untouched for the purpoſe. Some of the plants will be entirely males, and others females; ſo that it will be neceſſary not to leave them at too great a diſtance from each other, that the farina of the male flowers may with greater certainty fecundate the females. When the ſeeds are ripe, the plants ſhould be pulled up; and having lain a few days to be perfectly dry, turning them every day, the ſeeds ſhould be threſhed out, and put up in bags for uſe.

In order to raiſe large quantities of Spinage ſeeds, ſome good ſeeds of both the ſorts ſhould be ſown for the purpoſe about the end of February. After the plants come up, they muſt be hoed to about ſix inches diſtance; and as the weeds, in a little time, will require the ground to be hoed over again, a ſecond hoeing muſt be afforded them, when the weeds muſt be deſtroyed, and the plants thinned, not leaving them farther than a foot diſtant from each other. Thus they will have room to ſpread and perfect their ſeeds, which, when ripe, ſhould be managed as above.

The Mice are exceeding fond of Spinage ſeeds; ſo that you muſt be ſure to place them where thoſe vermin cannot come at them, or they will ſoon have the beſt ſhare of them.

Titles.

Spinage is titled, *Spinacia fructibus ſeſſilibus*. The various ſorts have titles accordingly by different authors. Thus Dalechamp calls the male, *Spinacia mas*; and the female, *Spinacia femina*. Caſpar Bauhine calls the Prickly ſort, *Lapathum hortenſe, ſive Spinacia ſemine ſpinoſo*; and the Smooth, *Lapathum hortenſe, ſive Spinacia ſemine non ſpinoſo*: and Moriſon, *Spinacia ſemine ſpinoſo*. It is not certain in what part of the world Spinage naturally grows.

Claſs and Order in the Linnæan Syſtem. The characters.

Spinacia is of the Claſs and Order *Dioecia Pentandria*; and the characters are,

I. Male Flowers.

1. Calyx is a perianthium divided into five oblong, obtuſe, concave ſegments.
2. Corolla. There is none.
3. Stamina are five capillary filaments longer than the calyx, with oblong, didymous antheræ.

II. Female Flowers.

1. Calyx is a monophyllous, permanent perianthium, cut into four acute parts, two of which are very ſmall.
2. Corolla. There is none.
3. Pistillum conſiſts of a roundiſh, compreſſed germen, and of four capillary ſtyles with ſimple ſtigmas.
4. Pericarpium. There is none.
5. Semen. The ſeed is ſingle, roundiſh, and incloſed in the calyx.

CHAP. LIV.

TANACETUM VULGARE, TANSEY.

Culture of Tanſey.

TANSEY is often wanted both for culinary and medicinal purpoſes, and large quantities are frequently raiſed. It is eaſily raiſed; for the roots creep very faſt, and will ſoon overſpread a large ſpot. In the autumn, therefore, let a piece of ground be well dug, and laid into beds ſix feet wide; and along each of theſe beds plant four rows of Tanſey roots, at a foot and a half diſtance from each other. Every year they will come into uſe, and will require no trouble except keeping them clean from weeds in ſummer, and ſlightly digging the ground between the plants, dreſſing up the beds, and laying a little fine mould over the tops of the plants every winter. When the roots have ſtood three or four years, they will be either clotted together, or become hard and woody, and conſequently the leaves and ſtalks be later before they ariſe in the ſpring, and proportionally weaker and ſmaller. The beds ſhould therefore be dug up, and others made in the autumn on a freſh ſpot of ground, as before.

Tanſey will grow in any ſoil or ſituation; but will be more luxuriant, and the ſtalks will be higher by near two feet, in a rich, moiſt earth, than they will in ſoils of a contrary nature.

How to raiſe Tanſey early in the Spring.

It often happens that Tanſey is wanted early in the ſpring. In theſe caſes, a certain number of plants ſhould be ſet in pots, and at the approach of winter the pots ſhould be removed into the green-houſe, or, to have the Tanſey ſtill earlier, into the ſtove; and by theſe eaſy methods Green Tanſey may be had all winter.

For want of theſe conveniencies, a hotbed ſhould be made in November or December, covered with mould; and the pots ſhould be plunged up to the rims in the mould of the bed. The beds ſhould be then hooped, to be covered with mats in cold weather. This will effectually bring up the Tanſey, to ſerve the purpoſes wanted in that early ſeaſon.

CHAP. LV.

THYMUS VULGARIS, THYME.

THIS ſpecies has been treated of in the Flower Garden, and its culture directed, as far as is neceſſary to raiſe a ſufficient ſtock only for thoſe purpoſes; but as large quantities of Thyme are often wanted for Medicinal and Kitchen uſes, I ſhall now give a more general way of raiſing it, in order to have it in its greateſt force and virtue.

Culture of Thyme. Parting of the roots, or planting of ſlips or cuttings, has been adjudged a way ſufficiently good to raiſe Thyme for any purpoſes in the Flower Garden, and indeed is the only way to continue the ſingularities obſerved in ſome of the ſpecies; but in order to have Thyme in full perfection for Medicinal or Kitchen uſes, recourſe ſhould be had to the ſeeds; and freſh beds ſhould every year be raiſed, to ſucceed each other in order; for the virtue of this plant greatly abates, as it grows old and ſticky.

In order, therefore, to raiſe Thyme in perfection, let a ſufficient quantity of good ſeeds be procured: Let a piece of dry ground be got in readineſs for their reception, by well-digging and making it fine; and in the firſt week of March let the ſeeds be ſown. Theſe are very ſmall; on which account, it will not be amiſs to mix with them ſome ſand or dry mould, to prevent their being ſown too thick. Having done this, ſow all together with an even hand, and gently rake them in. If dry weather ſhould happen, water the bed every third day, and the plants will ſoon come up. They muſt then be thinned to nine inches diſtance, the weeds muſt be conſtantly cleared away as they appear, and if dry weather ſhould make it neceſſary, every other evening the plants ſhould be watered. Thus they will ſoon be fit for uſe; and this is the perfection of Thyme.

Of ſaving the ſeeds. Some of the fineſt plants at a corner of the ground ſhould be left for ſeeds. Theſe ſhould not be nearer than a foot and an half to each other; the ground ſhould be ſtirred between them; and when they are in flower, the plants ſhould be watered to fill the ſeeds. After they get out of blow, watering ſhould be diſcontinued; and thus your ſeed will mature to perfection, and, if carefully gathered and preſerved, be in readineſs for a freſh operation the ſpring following.

The titles have been already given.

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CHAP. LVI.

TRAGOPOGON PORRIFOLIUM, SALSAFY.

Culture of Salſafy. ONLY the roots of this ſpecies in winter, and the young ſhoots in ſummer, are eſteemed excellent at our tables. In order to raiſe them, let a piece of good rich ground be double-dug in March or April, and on this ſcatter your ſeeds very thinly; rake them well in; and after the plants are come up, hoe them to a foot diſtance from each other. Let this hoeing be performed in dry weather, the more effectually to deſtroy the weeds; and as they ariſe, let the work be repeated throughout the whole ſummer. If a very dry ſeaſon ſhould happen, water the plants every other evening; and by the autumn the roots will be grown large, and you may begin to take them up for uſe. They will be in eating all winter; but in ſpring, like all other roots of the like nature, after they have begun to ſhoot for flowering, they become ſticky and good for nothing. The young ſhoots, at that ſeaſon, are an admirable diſh. Theſe may be cut from two inches to half a foot or eight inches high; and all this time, which will be about three weeks, they may be ſerved up to the table in the manner of Aſparagus; to which they are by many people preferred. There are various ways of dreſſing the roots of Salſafy, though the moſt common method is to boil them firſt, and then ſlice and fry them with flour and butter. A ſufficient quantity of plants ſhould always be left untouched for ſeed.

Salſafy is that ſpecies of *Tragopogon* called Purple Goats Rue. The young ſhoots of the Yellow Goats Rue are alſo eſculent, though reckoned very much inferior to thoſe of this ſpecies.

Titles. Salſafy is titled, *Tragopogon calycibus corollæ radio ſeſqui-longioribus, foliis integris ſtrictis, pedunculis ſupernè incraſſatis.* Caſpar Bauhine calls it, *Tragopogon purpureo-cæruleum, porri folio*; and Gerard, *Tragopogon purpureum.* It grows naturally in many of our meadows and paſture-grounds.

CHAP. LVII.

TROPÆOLUM, INDIAN CRESS, or *NASTURTIUM*.

Its uſes. Culture.

THE two ſorts of Indian Creſs or *Naſturtium* are not only raiſed in the Flower-Garden as Annuals, but are alſo cultivated in the Kitchen Garden by thoſe who have no taſte for flowers otherwiſe than as they pleaſe the palate. By theſe they are raiſed for Kitchen uſe; for their flowers make an admirable mixture in ſallads; they form a beautiful ornament to diſhes, &c. and the ſeeds are ſaid by ſome to afford the beſt ſort of pickle for ſauces yet known. In order, therefore, to raiſe *Naſturtium* for theſe purpoſes, let a piece of good rich ground be well dug, and the ſurface made level and ſmooth; then about the middle of April place two or three ſeeds in ſmall holes all over the ground, at about two feet diſtance from each other, covering them down about half an inch deep. Place a ſtick by each hole for a direction; and if the ſeaſon proves dry, water them every other evening. Keep them clean from weeds; and after the plants come up never mind ſticking them, but let them rûn upon the ground and tangle one with another. They will begin flowering by the end of June or the beginning of July, and will afford you flowers for ſallading, or garniſh, all ſummer and autumn, and yield plenty of ſeeds for pickle as well as a ſucceſſion.

The titles of theſe plants have been given already.

CHAP. LVIII.

VALERIANA LOCUSTA, CORN-SALLAD, or LAMBS-LETTUCE.

Remarks.

THERE are many varieties of Lambs-Lettuce, which have been taken for diſtinct ſpecies, and titled accordingly; but experience has now taught us that their differences are not permanent, and that one common title belongs to them all.

Culture.

The moſt common ſort propagated for ſallad uſe, is that low annual which grows ſo plentifully amongſt the corn in many of our fields. In order to raiſe theſe in the garden, let the ſeeds be ſown in the autumn, ſoon after they are ripe. They will be ready by the end of Auguſt or the beginning of September, and let them be ſown moderately thick in any bed of common mould. The firſt autumnal rains will bring them up; and when they appear too cloſe, they ſhould be thinned to three or four inches from each other; the weeds muſt be conſtantly cleared out; and this is all the trouble they will require. They will be fit for the table early in the ſpring, and ſhould be eat very young, becauſe the plants have naturally a ſtrong taſte, which becomes more diſagreeable in proportion as they advance in age. This ſort is ſeldom or never eat in ſummer, which makes any more ſowings unneceſſary.

Titles.

This ſpecies is titled, *Valeriana floribus triandris, caule dichotomo, foliis linearibus*. In the *Hort. Cliff.* it is termed, *Valeriana caule dichotomo, foliis lanceolatis integris, fructu ſimplici.* Caſpar Bauhine calls it, *Valeriana campeſtris inodora major*; and Gerard, *Lactuca agnina*. It grows naturally in England among corn. The other varieties of this ſpecies grow in different parts of the world. A ſort of it is found in Crete, with inflated cups, and ſerrated leaves. In Portugal a ſort grows with ſtarry fruit, and indented leaves. Maryland alſo, and the ſouthern countries of Europe exhibit other varieties, which they naturally produce.

CHAP. LIX.

VICIA FABA, The BEAN.

Introductory Remarks.

THERE are numerous ſorts of the Bean, many of which have been but newly introduced into our Gardens. Improvements in the different kinds are every year making in moſt of our neighbouring countries, as well as in this iſland; and no wonder that ſo uſeful and almoſt univerſally admired a plant ſhould engage the attention of all lovers of their country! Great as the number of the ſorts of Beans is, the reader muſt be informed that they are not a diſtinct ſpecies, though there is ſo wide a difference between them; they are varieties only of one ſpecies. There is originally but one Bean, and the Common Horſe Bean of our fields is ſuppoſed to be it. The Horſe Bean is ſubject to run into varieties. I have found ſome almoſt as large as the Windſor, ſome like the Long Pods, and others ſuch as could not be diſtinguiſhed from the Mazagan, in my barns. I have alſo ſeen Purple-bloſſomed ones, and others of different tinges when growing in the fields: And as it ſeems to be granted for more univerſal uſe than any of thoſe in our gardens, we have good reaſon to believe this to be the original kind, and that all our Garden Beans are varieties of it only, which have been firſt obſerved by chance, and increaſed and improved by good culture and management to the perfection they now poſſeſs.

But be this as it may, the moſt uſeful ſort of Garden Beans now are,

Species.

1. The Early Mazagan.
2. The Early Portugal.
3. The Small Spaniſh.
4. The Early Long Pod.
5. The Broad Spaniſh.
6. The Genoa.
7. The Nonpareil.
8. The Sandwich.
9. The Long Toker.
10. The Turkey.
11. The Windſor.
12. The Late Portugal.
13. The White-Bloſſomed.
14. The Black-Bloſſomed.
15. The Scarlet-Bloſſomed.
16. The Dwarf.

Culture of the Early Mazagan,

Beans may be had at the table from the beginning of May until November, with proper management. For this purpoſe, different ſowings at different times muſt be made. The Gardener prides himſelf in his early productions; and with good reaſon, becauſe they are demonſtrations of his ſkill in his art. Early Beans do him honour, though they do not call ſo much for nice judgment as induſtry, and a propitious ſeaſon to bring them forward. For the firſt crop of Beans, then, let a piece of ground be well-dug in the warmeſt and beſt defended part of the garden, and againſt a ſouth wall or hedge. Let two or three rows, at two feet diſtance, of the true Mazagan Beans be ſowed. Be ſure that your ſeeds be new, and plant them in rows by pairs, at a foot aſunder. Early in November your Beans will come up; and when they are about three inches high, draw the mould up to the ſtems: Repeat this as they advance in height, making a conſiderable ridge along each row, which will ſtrengthen your plants, and protect them from the froſts. If the winter ſhould happen to prove very ſevere, prick a row of furze-buſhes pretty cloſe together on the unguarded ſide, to ſecure them from the keeneſt blaſts. As they advance in the ſpring, let all ſuckers be taken off, and only the main ſtems left to produce the fruit; for ſuckers would retard the growth of the Beans, and diminiſh their ſize. When they firſt come into bloſſom, nip off the tops of the ſtalks; and this will occaſion them to ſet firm, and bring them forward. With this practice, if the weather has not been ſo over-ſevere as to deſtroy your plants, your Beans will be ripe for gathering by the beginning of May.

To have them ſtill forwarder, let a ſingle row only be ſowed very cloſe together, three inches from a ſouth wall; and when they are going into flower, if you will be at the trouble of nailing them to the wall, as you do fruit-trees, it will bring the Beans forwarder by ſome days.

When more rows than one are planted, it is cuſtomary to thruſt ſtakes into the ground at the ends of the rows; and by tying packthread on each ſide of the rows the whole length, they are kept upright, and conſequently in the moſt thriving poſition.

This latter method is practiſed with little trouble; but the former is to be done by thoſe only who have much leiſure, and a few plants only to raiſe. When a good quantity of Early Beans is wanted, the firſt method muſt be purſued; and even then you will find the difference, on the whole, very inconſiderable.

and the other ſorts.

This crop will be of ſhort duration. The true Mazagan Bean bloſſoms nearly at once, and the fruit is fit for the table nearly at the ſame time: So that in order for a ſecond crop, it would be neceſſary, about the time the firſt ſowing was made, to ſow another piece of ground in a warm, well-ſheltered place, or in rows contiguous to the former, with Mazagan Beans that are Engliſh-ſaved. The ſeeds for the ſort beforementioned are ſuppoſed to be brought from abroad, and are ſmaller than the Horſe Bean: But after they have been ſown in England, and the ſeed gotten for a ſucceſſion, the Beans from ſuch Engliſh-ſaved ſeed will be larger, and later before they are ripe, and will ſucceed the others in due courſe. After this, you may either ſow Mazagan Beans again every ten days or a fortnight, or you may introduce the Early Portugal, Early Long Pod, and Small Spaniſh. Theſe are generally ſaved for early crops before Chriſtmas, and are univerſally admired Beans. After theſe, comes on the long train of Broad Spaniſh, Sandwich, Toker, Turkey, Tall Long-pod, Windſor, Nonpareil, and Late Portugal. The diſtance theſe require is in proportion to their ſize. The rows for the Windſor Beans, if the ground is good, ought to be a yard aſunder, and the Beans placed by pairs, at a foot diſtance from each other: And this proportion between theſe and the Early Mazagan may be obſerved in the other ſorts.

Repetitions of theſe ſowings may be made until the end of May, and ſuch late ſown crops will be in eating late in the autumn. The Long Pod, the Spaniſh, the Sandwich, and the Long Toker, are all reckoned valuable Beans, becauſe they are great bearers; but the Windſor exceeds them all in excellence of flavour.

The laſt four ſorts are chiefly raiſed out of curioſity, for the oddneſs of their properties. The True Dwarf Bean does not grow higher than eight or ten inches, which occaſions its being coveted by ſome; but the White, the Black, and the Scarlet Bloſſomed Beans, are preferred for the variety they cauſe by their flowers: Though they are all excellent bearers, and their fruit is good, eſpecially the White-bloſſomed, which are remarkable for boiling green, and are peculiarly tender and fine-flavoured.

After your Beans are ſowed, nothing more is to be done than to keep them clean from weeds, and when they are in full bloſſom to nip off the tops of the ſhoots, to cauſe them to ſet ſtrong, and fruit to the very bottom of the ſtalks.

Proper ſoil.

Beans delight in a ſtrong, ſtiff land; but for the Early crops, a light, fine ſoil ſhould be preferred. An open expoſure is neceſſary for the ſummer crops; and they are in perfection for eating when they are arrived at their full growth, and are no older: So that ſuch perſons as pique themſelves on having fine Beans, ſhould ſelect all the pods that are of that age, and reject all Beans that are either older or younger.

Of ſaving the ſeed.

In order to have Seed-beans in perfection, a ſufficient quantity of each ſort muſt be ſown for the purpoſe in ſeparate parts of the garden. They muſt be ſown at the ſame diſtance, and in the ſame manner, as thoſe deſigned for the table; and when they come to flower, the perfection of management, if the weather ſhould prove moiſt, is, to dig between the rows; afterwards, if a dry ſeaſon ſhould ſet in, to give them a good ſprinkling of water every other evening until the pods are nearly at their full growth. Watering then ſhould be left off; and when the Beans are full ripe, the ſtalks muſt be pulled up, and ſet in an upright poſition, or any-how laid hollow, to dry. When the ſeeds are ſufficiently dried, the pods on the lower part of the ſtalks muſt be ſtripped off, reſerving the others for ſwine or cattle; for it is from the pods on the lower part of the ſtalks only, that ſeeds muſt be gathered for uſe. This is the perfection of Seed-beans; but how ſeldom is the method practiſed! Nay, how frequent is it, to ſee perſons be ſo far from obſerving any of the above precautions, as to let the Seed-beans conſiſt of thoſe few only at the ends of the ſtalks that eſcaped gathering for the table? But let ſuch people know, that though ſuch Beans may grow, yet they will always produce the ſmalleſt, the worſt-flavoured, and moſt degenerate ſorts in return.

Having ſuppoſed our induſtrious Gardener has got his ſeed in perfection, the only way to keep it ſo, is by often changing it with other Gardeners in diſtant parts, who have been equally careful in raiſing their ſeed. Every Farmer teaches us this leſſon. They change the Seed-bean every other year, in order to have a crop in perfection in the field: And we muſt purſue this practice, if ever we expect to have a crop in perfection in the garden.

Titles.

The Bean is titled, *Vicia caule erecto, petiolis abſque cirrhis.* Caſpar Bauhine calls it, *Faba.* The Horſe Bean, which he ſuppoſes another ſort, he terms, *Faba minor, ſive equina.* Dodonæus calls it, *Bona, ſive phaſeolus.* It grows naturally in Ægypt.

From the above titles the Gardener will ſee, that the Bean is a ſpecies of the Vetch: The botanic characters are the ſame; the only difference is, that the ſtalk is erect, and it has no claſpers.

PART III.

The Management of the Pine Apple, Melon, Strawberry, and all low Sorts of Fruit.

CHAP. I.

BROMELIA, The PINE APPLE.

General introductory Remarks.

IN treating of Fruits, the Pine Apple juſtly claims the firſt place; not only for its extraordinary flavour in ſcent and taſte, but becauſe the due management of it is reckoned amongſt the niceſt and politeſt parts of Gardening.

It is termed the King of Fruits, probably on account of the long, cloſe ſpike of leaves, called the Crown, growing on its head, as well as for its ſuppoſed ſurpaſſing excellence of all other ſorts that Nature has yet produced: And we call it the Pine Apple, from the reſemblance of its figure to the cones of the Pine Tree.

It grows naturally in Surinam, New Spain, and in Africa; and though it is ſometimes found growing wild in the parched ſands of that country, it diſdains ſuch a ſoil with us. Sand, in a great meaſure, is to be excluded its compoſt, and a good fat earth ſeems to be its chief delight.

In all the hot parts of America it is raiſed in amazing plenty, and from thence we often receive the plants. In Europe it was firſt raiſed in Holland, from whence we firſt got plants, and their method of propagation. Its true management came on but ſlowly for ſome time; but by repeated experiments and trials, and the indefatigable induſtry of the Dutch Gardeners, its true method of culture was hit on, and is now ſo generally known, that we can produce Pines in as full perfection in flavour, as they are found in countries where they naturally grow.

There are many varieties of this fruit, all which have been accidentally obtained from ſeeds; and were a perſon to be careful in ſaving the ſeeds from the beſt ſorts, it is paſt a probability but that new, and ſtill more valuable ſorts might be conſtantly introduced into our gardens.

In flowers or fruit that are moſt deſirable, Nature is wonderfully laviſh in the varieties. The Tulip, the *Primula*, the Hyacinth, &c. are inſtances of the former; and the Apple, the Pear, the Peach, &c. are proofs of the latter. The known and valuable varieties of the Pine Apple, at preſent, are not inconſiderable; nay, are very great, conſidering the little time its culture has been known; and could it be brought to become as general as any of the other ſorts, it is beyond a doubt, but that our gardens would wanton with as great a profuſion of ſorts.

At preſent, the moſt valuable and generally cultivated kinds are,

Sorts.

1. The Oval Pine Apple with whitiſh fleſh.
2. The Sugar Loaf Pine with yellow fleſh.
3. The Smooth-leaved Pine.
4. The Shining-leaved Pine.
5. The Deep Green-leaved Pine.
6. The King Pine.
7. The Queen Pine.
8. The Olive-coloured Pine with yellowiſh fleſh.
9. The Green Pine.
10. The Black Pine.

All theſe kinds are propagated by the proper management of the crowns and ſuckers. Some people are very diligent in procuring plants from America; but this is needleſs trouble; we have better at home. Thoſe we receive from America will for the moſt part be ſickly, ill-choſen, and often nearly periſhed through the length of the voyage. There will be frequently among them bad ſorts that are not worth propagating; and there is only this thing to be ſaid in favour of ſuch practice, "there is a great probability of having ſome valuable freſh variety introduced among us." Thoſe, therefore, who will think this a motive ſufficient for their trouble of procuring them from ſo great a diſtance, may follow that practice: But ſuch as are content with encreaſing theſe valuable ſorts we are already poſſeſſed of, may do it in the following manner.

Culture of the Pine Apple.

The crown is that part which is produced from the top of the fruit, and is in proper condition for planting when the fruit is full ripe, which is generally about Auguſt. It ſhould then be taken off with a twiſt; the pulpy part at the bottom ſhould be wiped with a cloth; a few of the lower leaves ſhould be ſtripped off; and it ſhould be laid by, if in ſummer, for three or four days, that the parts may dry and ſkin over. If this operation is performed in winter, it will be a week or ten days before the bottom is healed, and covered with a dry ſkin. When you find that is effected, plant the crown, and not before; becauſe if you do, there will be great danger of its rotting, and coming to nothing.

Suckers are produced from the bottom, the ſides of the ſtalks, and even under the fruit. By theſe the ſorts are admirably continued. They are to be taken off and laid by in a warm place, that the bottom parts may heal or ſkin over, like the crowns: But if you wait for a proper time for ſeparating them from the old plant, there will be little occaſion for this. Let them grow until you perceive them ſtrong, and they become brown at their baſe; then are they ripe for being taken off; then will you find the bottom hard, and often knobbed round the edge: And ſuch ſuckers may be planted as ſoon as you pleaſe, after taking them from the old plants.

Proper ſoil.

The ſoil in which they ſhould be ſet, ought to be a rich, freſh mould. They flouriſh exceedingly well in a good fat garden earth, taken from a well-cultivated part of the Kitchen Garden; but the moſt perfect ſoil for their vegetation is the upper ſurface of a rich paſture. This ſhould be dug half a ſpade deep, and laid on an heap with the ſward full twelve months before it is uſed; and if it lie a year and a half, it will be better. It muſt be frequently turned; the clods muſt be broken; the turf, as it rots, muſt be knocked to pieces, the more effectually to ſeparate the parts, and reduce it to mould. This will be what is called a Maiden Earth, and will be more ſuitable to Pines than all the compoſts ever yet known. Cow dung will be an unneceſſary ingredient; it will be better without it. Sand would be hurtful, were any to be added to it; and pond mud, which is too often and too idly recommended, would be ſtill worſe.

The pots, at firſt, for the plants muſt be very ſmall. Thoſe ſorts known among Gardeners by the name of Halfpenny-Pots are the proper ſize for the purpoſe. A good hole ſhould be at the bottom to drain off the moiſture; an Oyſter-ſhell ſhould be placed over each hole to ſupport the mould; and having filled them with the prepared mould, and planted the crowns and ſuckers, they ſhould be plunged up to the rims in the bark-bed of the ſmall ſtove. In planting them, they ſhould not be ſet deep; the earth ſhould be well preſſed to the ſides; and no water ſhould be given them for a few days.

Proper ſize, &c. of the ſmall ſtove and bark bed for the reception of the crowns and ſuckers.

The bark-bed of the ſmall ſtove, which is deſigned ſolely for the reception of the crowns and ſuckers, ſhould be of a length in proportion to the number of plants to be raiſed; but its breadth ought not to be more than ſix feet and an half. It ſhould be ſunk two feet deep, if the ſituation is dry; the bottom ſhould be well rammed and ſtrewed with aſhes, and the ſides guarded by a good brick wall, which ſhould be raiſed one foot above the level of the ground. If the ſoil is naturally damp or moiſt, the bottom of the tan-pit ſhould be upon a level with the ſurface of the ground; then the floor ſhould be bricked, and the ſide-walls ſhould be carried up a yard high. The back wall ſhould be nine inches thick, and may be raiſed to any deſired height; but this need not be very great, becauſe in this ſmall ſtove there need not be any upright glaſſes in the front; and the glaſſes may be made to ſlide down from the top of this to the front-wall, which need not be above a foot and an half high, if the tan-pit is ſunk; but if it is placed above the ground, it ſhould be higher. In the back-wall ſhould be the fire-place, and along the inſide of it the flues ſhould run, to warm the place: It muſt be built at a ſufficient diſtance from the tan-pit to leave room for a walk, that the Gardener may the more commodiouſly manage his plants; and care ought to be taken not to cramp him too much for room. A ſhed behind it muſt be built; the glaſſes muſt have ſhutters; and warm cloths to be let down by pullies in unſeaſonable weather muſt be prepared. Thus will the place be properly equipped; and this is the little ſtove for the firſt reception of the Pine Apple plants.

The plantation is uſually made about Auguſt, though the plants will grow at any time of the year; and in this little ſtove they muſt remain twelve months, after which they muſt be removed into a larger ſtove: So that this plant requires two ſtoves of different ſizes, in its progreſs to perfection; and the time it requires in arriving at this, is about two years from the planting.

Having the ſmall ſtove ready, the tan-pit well filled and in moderate heat, the crowns and ſuckers planted, let us put them in their proper places.

In doing of this, let the talleſt be placed backwards, and the ſmalleſt in the front; the others are to be proportionably backwarder or forwarder, according to their ſizes; and all muſt be ſo diſpoſed, that every ſingle plant may receive as much benefit as poſſible from the ſun.

The plants being all ſituated in the pit, the chief care muſt be, to keep them in a due temperature of heat: Too much of it in this infant ſtate will cauſe them to grow weak, white, and ſickly; and with too little heat, their progreſs will be nothing, if they grow at all. A due admiſſion, therefore, of air ſhould be granted them on all favourable opportunities; the bed muſt be in a moderate heat; and after they have been planted about a week, they ſhould be allowed a moderate watering.

Watering afterwards ſhould be repeated once a week, though very ſparingly at a time; and after they appear in a growing ſtate, they may be watered rather oftener: The leaves and every part of the plant and earth muſt be ſprinkled; and as the days grow ſhorter and the colds advance, the canvaſs, or ſlight cloth covering, may be drawn over the glaſſes in ſuch evenings as require it.

All winter the bed muſt be kept in due temperature; air muſt be given the plants on all favourable occaſions; and a ſmall ſprinkling of water once a week will be ſufficient.

In the ſpring the plants are to be ſhifted into pots a degree larger than the former; they ſhould be perfectly ſound, clean, and have large holes at the bottom, the more effectually to drain off the moiſture. The beginning or middle of April is a good ſeaſon for this work; and the mould and pots ſhould be placed in a corner of the ſtove, two or three days before they are uſed, to warm. In ſhifting the plants, they ſhould be carefully turned out of the pots, and the ball of earth ſhould be undiſturbed as much as may be; the broken and decayed fibres on the outſide of the ball ſhould be taken off, as well as all damaged and decayed leaves; and then the plant will be in proper condition for its new lodgings. Let a large oyſter-ſhell be firſt laid in the pot, then ſome mould; on this place your plant with the ball of earth at the root, carefully fill up the ſides, and ſee that the plant be ſet deep enough, that the new earth may be about an inch above the old ball; ſettle the earth tight to the roots, and plunge it immediately into the bark-bed again. If the heat is abated, renew the fermentation with ſome freſh bark; and after the pots are ſet up to the rims in their proper place, a pretty good ſprinkling of water muſt be afforded the mould and the leaves of the plants.

The water ſhould be ſet in the ſtove at leaſt twenty-four hours before it is uſed; the plants ſhould be ſhaded from the violence of the ſun until they have taken freſh root; the glaſſes muſt be covered in cold nights; and all poſſible air muſt be given to the plants in the day, when the weather is mild.

As the ſummer advances, the plants will require frequent waterings; twice every week is as little as they ought to have. The leaves as well as the mould ſhould be ſprinkled; and if ſtill warm ſhowers ſhould happen, as they frequently do in May and June, the glaſſes ſhould be taken off; and if this can conveniently be done, the plants will receive great benefit from it. The glaſſes ſhould be immediately laid on again, and ſhut down cloſe. If the ſhower ſhould have happened in the morning, the glaſſes ſhould be a little raiſed again, to give the plants freſh air, before the evening; and if the ſun ſhould ſhine out with great violence after the ſhower, it would be highly proper to ſhade the plants.

This is their proper management all ſummer; and by the due obſervance of it, the plants will be kept in their regular growth; they will be healthy and ſtrong, and not be liable to the bug, which feeds only on the unhealthy, ſtunted plants.

Nevertheleſs they will be of different ſizes; and about the end of Auguſt an aſſortment of the largeſt ſhould be made. Theſe ſhould conſiſt of ſuch as have vigour enough to fruit in the ſpring, and ſhould be ſhifted into larger pots, whilſt the others remain undiſturbed for ſome time after.

The proper-ſized pots for theſe largeſt plants are what are called Two-penny pots, and the manner of ſhifting them is exactly the ſame as before.

Directions reſpecting the largeſt ſtove, and its bark-bed.

Having planted them all with the utmoſt care in their new pots, they ſhould immediately take their place in the largeſt ſtove. The bark-bed of this ſhould be ſunk two feet deep if the ſoil is dry; but if damp or wet, the bottom of it ſhould be of a level with the ſurface of the place. The back-wall muſt be ſtrong, and the flues ſhould run withinſide it in the uſual way; they ſhould return not leſs than four or five times; and the fire-place ſhould be at the end neareſt the Eaſt, whilſt the entrance ſhould be at the Weſt end, through the ſhed behind the ſtove, which ought always to be firſt. Upright glaſſes muſt be in the front five or ſix feet high, and ſloping glaſſes ſhould run to meet them from the roof, which ought to be made as backward as poſſible, that the greater quantity of ſun may enter the place. A walk muſt be left round the tan-pit; and this ſhould be ſunk a foot lower than the top of the bed: By this means the plants will be nearer the glaſſes, the height of the place may be proportionally lower, and the quantity of air to be kept warm and in good order, leſs. A wooden frame ſhould ſurround the bed; being placed on the top of the wall to prevent its being broken, and alſo to receive iron uprights and props to ſupport the frames of the ſloping-glaſſes. Good ſhutters, and cloths to hang down or be drawn up with pullies, as there ſhall be occaſion, ſhould be had: And this is the larger Pine Apple ſtove, or the ſtove for ripening of the fruit.

The pit of this ſtove being filled with good freſh bark of a middling ſize, as it becomes of a moderate warmth, the largeſt plants, as they are ſhifted into two-penny pots, ſhould be plunged up to the rims in it: But obſerve, by no means to place them too near to each other. It is a general fault with Gardeners to crowd their plants in this ſtove too much; by which the circulation of the air being impeded, it becomes leſs pure, and often brings on a ſtagnation of the juices of the plants: Hence weakneſs, ſickneſs, the bug, and at laſt death enſues.

Allow your plants therefore room enough, and that will be one ſtrong preſervative againſt theſe maladies; the plants will be healthy and ſtrong, and will bottom well; from which plants alone large fruit may be expected.

At the time of plunging the pots into the bed, give the leaves of the plants and the mould a good ſprinkling of water; and repeat it at intervals as before, as you ſee occaſion. As the days decreaſe, and cold nights come on, keep a conſtant guard upon your ſtove; the plants by that time will be found in a very active, growing ſtate, and a ſmall check from cold will be attended with more than ordinary damage.

On this account the fire muſt be lighted in the ſtove, as ſoon as ſevere weather makes it neceſſary; though, in general, the whole place will be in good temperature until the end of November, which is the uſual time of making the fire to add greater heat to the air of the ſtove.

The fruit will ſhew itſelf ſoon after; and then a ſtill greater nicety muſt be obſerved in keeping the houſe in good order, and in its proper degree of warmth. The fire muſt be lighted in all foggy and damp weather, as well as in ſevere froſts; though a ſmall fire only will be neceſſary to diſpel ſuch vapours, and prevent the damps from penetrating the houſe. The glaſſes muſt be covered in nights, and the ſhutters, cloths, and all the guard of the houſe, ſhould be aſſembled for its protection in ſevere weather.

The fruit will regularly advance towards perfection; and from its firſt appearance until its bloom is over, the greateſt care ſhould be taken not to wet it, when the plants are watered. Bruiſed or decayed leaves muſt be all along taken from the plants, as they ſhew themſelves: Cleanlineſs muſt be ever obſerved, and kept up; and the plants will more than ordinarily ſucceed in ſuch a ſituation.

When the fruit grows large, and the bloſſoms are paſt, it may be ſprinkled in common with the leaves and mould. A larger quantity alſo of water at a time ſhould be afforded the plants, and the work ſhould be repeated twice a week, and that in the evenings: For it is a good rule, in the ſummer months to water in evenings, but in the ſpring and autumn the mornings are beſt for the purpoſe; nevertheleſs, air in plenty muſt be granted the plants, and your fruit will ſoon ſhew ſigns of being ripe.

You will ſee the golden yellow begin to glow in ſome, and the different tints peculiar to the other ſorts aſſume their caſts: But the beſt and moſt certain indication of it is the delightful fragrance it affords.

The fruit of the forwardeſt plants will come in by the middle of June, and the others will ſucceed them in order according to their ſtrength until October.

Of gathering the fruit.

The time for gathering the fruit is in the morning, before the ſun ſhines on the ſtove. It ſhould be laid in a cool, dry place until dinner, at which time the crown muſt be carefully twiſted off as before, to become the rudiment of a freſh fruit.

If too large a quantity of fruit ſhould ſhew ſigns of being ripe together, a part of it may be backened by ſhading the glaſſes; but that quickneſs of flavour peculiar to this fruit, will be by that means proportionally diminiſhed.

The plants left in the ſmall ſtove, when they are of proper ſize muſt be removed into the larger ſtove, and be all along treated in the ſame manner with theſe, and they will ſucceed them in order of fruiting.

Of planting the crowns and ſuckers.

The crowns and ſuckers muſt be always planted as they are in readineſs, and arts may be uſed to make ſorts of eminence produce ſuckers in plenty.

The way is this: At the time of cutting the fruit, the leaves alſo of the plant are cut off; the pot is then immediately plunged into a good hotbed; a moderate watering muſt be afforded it every evening or morning, as the ſeaſon makes it neceſſary; a due admiſſion of air is granted it in the middle of fine days; and a plant thus managed will throw out plenty of ſuckers, which may be taken off when they are of proper growth, and treated as the former ſorts. Thus may any uncommonly fine ſort be multiplied, and the ſorts of Pines in a little time improved in value. Plenty of crowns and ſuckers of the beſt ſorts will be always at hand, and the ſucceſſion in the compleateſt manner kept up, without the extraordinary expence and trouble of procuring inferior ſorts from America.

The plants from America are to be treated in the like manner; only, previous to their being planted, they muſt be infuſed in a decoction of Tobacco and water, to kill an inſect that is frequently found on the plants that are brought from thence, called the Bug: Becauſe if theſe inſects are not killed at the firſt planting, they will in a little time encreaſe to ſuch prodigious quantities, as to threaten deſtruction to all the plants in the ſtove. And as this is the only noxious inſect this plant is liable to cheriſh, I propoſe giving a receipt to deſtroy it, and direct the method of uſing it.

A receipt to deſtroy the Bug of the Pine Apple plants.

Take one pound of Tobacco duſt, one pound of Tobacco ſtalks, and two pounds of wood aſhes; put theſe into three gallons of boiling water; ſtir it about well, and after it is cold let it ſtand three hours; then drain the water off, and it will be fit for uſe.

The manner of uſing it.

The plants from America that ſhew ſigns of the diſtemper, ſhould be well ſoaked in this water, and then waſhed clean with a ſpunge; after that, they ſhould be plunged again into the water; where having continued all night, the inſects will be effectually killed, and the plants will be ready for potting afreſh.

When this inſect threatens deſtruction to plants of our own raiſing in our ſtoves; which they never do unleſs there has been bad management; the beſt way will be to take up the plants, plunge them into the infuſion, and clean them with a ſponge in the like manner. The roots of the plants ſhould then be trimmed, and planted afreſh; and the heat of the bed for their reception after this operation ſhould be quickened by an addition of freſh bark. This will more ſpeedily ſet them a-growing, and the plants will ſoon ſhew ſigns of ſprightly health, and that they are recovered from their diſorder.

The thermometer in the ſtove is in uſe only in winter. The proper degree of heat for the Pine Apple is marked on it. You muſt keep the air of the ſtove as near as poſſible to this temperature: Though it is obſervable, if it be four or five degrees above, or four or five degrees under the mark, the plants will not ſuffer from an undue temperature of heat or cold.

The title of this ſpecies has been already given.

C H A P. II.

CUCUMIS MELO, The MELON.

Introductory Remarks.

THE Melon is a ſpecies of the Cucumber. It is an admirable fruit, and varies very much by culture. It is not certain in what part of the world it naturally grows, though it is generally ſuppoſed to have been brought firſt from Perſia. It is cultivated in great plenty in Italy, Spain, Portugal, and moſt of the Southern countries of Europe. The Dutch are very fond of it, and raiſe it in great quantities. The French bring it to great perfection; and we are inferior to none of them in our ſkill in the management of this excellent plant.

As the Melon varies much by culture, we need not wonder that ſo many ſorts are found in our gardens, or that ſo many bad ſorts alſo appear among them. The firſt principal care of the Gardener, therefore, is to get ſome good ſorts; and the next is to preſerve them in their true kinds as near as may be.

With regard to the firſt care, good ſorts are no otherwiſe to be had than from ſome friend or ſeedſman you can depend on; and with reſpect to the latter, it is no otherways to be effected, than by keeping the different ſorts in different parts of the garden, and when any bad variety appears among the plants of any one of the ſorts, carefully to eradicate it, and ſuffer the ſeeds to be gathered from ſuch fruit as the eating will teſtify to be not only the true, but an high-flavoured ſort of the true kind.

Sorts.

The moſt noted ſorts of the Melon are,

The Early Roman.
The Romana.
The Small Portugal, or Dormer Melon.
The Black Galloway.
The Succado.
The Zatte.
The Genoa.
The Languedoc.
The Cantelupe.
The Old Muſk.

The firſt five ſorts are generally propagated for early fruit; but the Romana is in moſt eſteem for that purpoſe.

The Cantelupe is univerſally admired, and is uſually raiſed for the middle crop; whilſt the Old Muſk, which comes in later, and has its advocates for being the beſt Melon in the world, is ſometimes raiſed for the laſt crop.

The proper ſorts for raiſing.

The reader muſt be informed, that only two ſorts out of the above number are neceſſary to be raiſed, the Romana and the Cantelupe: The Romana will naturally come forward, then the Cantelupe; and fruit of the Cantelupe may be obtained until the Melon ſeaſon is over.

Of raiſing Melons.

The firſt thing neceſſary for the raiſing of good Melons is to procure good ſeeds. Theſe ſhould be gathered from high-flavoured fleſhy fruit of the true and beſt ſorts, and ought to be three years old before they are uſed; for new ſeeds always produce very luxuriant plants, and are ſeldom brought to bear much fruit.

The next thing to be conſidered is the place where they are to be raiſed. This ſhould be full upon the ſouth, and ſhould be well ſheltered all round; and the nearer it is to the ſtables, the better. Where good defence from bad weather is wanting, a reed-hedge muſt be made to encloſe the whole ſpot, ſo that it may be large enough for the quantity of Melons to be raiſed. A ſpot thus incloſed by the reed-hedge will be defended from the cutting winds; and a ſpot thus guarded, and furniſhed with Melon plants, is called the *Melonary*; for Melons ought always to be raiſed in a place by themſelves.

The next thing to be conſidered is the time of ſowing the ſeeds. The Romana, and the other Early ſorts, ſhould be ſown the beginning of February; the Cantelupe the beginning of March; and if you chuſe to raiſe the Old Muſk to come in laſt, the ſeeds of it ſhould be ſown three weeks after. They ſhould be ſown on a common hotbed, as is practiſed for Cucumbers; for from this they are to be removed to the general hotbed, where they are to remain for fruiting; and which, at proper intervals, ſhould be preparing, and got ready for uſe. The dung ſhould be brought from the ſtables about three or four days after the ſeeds are ſown, it ſhould have a mixture of coal-aſhes, and it ſhould be laid on an heap; during which time it ſhould be turned over three times each day, at an interval of about four days between each time. By this means, when the bed is made, the fermentation will be more regular and uniform; for were the beds to be made entirely of new dung, and laid on at firſt, it would be out of the Gardener's power to moderate and keep the ſteam within bounds; ſo that whenever a place is required immediately for the reception of the plants, it would be proper to have one-half of the dung new from the ſtables, and the other half old dung from a dunghill which has lain a month or two abroad, with an addition of ſaw-duſt, at the rate of two buſhels to the load. Theſe ſhould be all well mixed together before they are uſed; and in either caſe, the manner of making the beds is as follows:

Method of raiſing Melon-beds.

If the ground be perfectly dry and riſing, let a trench be dug a foot deep, and let it be ſix feet wide; ram the bottom down well, and ſtrew over it two inches thickneſs of cinders: Upon this lay your largeſt litter, and after that raiſe the bed up regularly, mixing all the parts as nearly as poſſible; let it be well beat down with the fork as you go on, and let the ſmall ſtuff be ſpread evenly along the top of the bed, and patted down level with the ſpade.

A load is a ſufficient quantity for each light. It ſhould not be trodden down, as is too often practiſed; it ſhould only be preſſed moderately cloſe together; and if the back part of the bed be raiſed a few inches higher than the front, the plants will have more the advantage of the ſun's rays.

As ſoon as the beds are made, the frames and glaſſes ſhould be ſet on, to be in readineſs to protect the bed from heavy rains, ſhould they happen, as they frequently do at that early ſeaſon. The glaſſes ſhould be raiſed to let out the ſteam; and in about four days the bed will be of a proper temperature to receive the mould.

Proper ſoil.

Much uſeleſs altercation has happened, in pretending to preſcribe certain laws for the mixture of a compoſt for the Melon plants. Many Gardeners, by this means, pretend to reveal a very great ſecret, and at the ſame time think they exhibit very great ſkill and penetration in their art; whereas, at the ſame time, they exhibit nothing but their folly. The Melon plant delights only in a good fat earth, and a well cultivated Kitchen Garden never fails to produce plenty of it. From a fat part of the Kitchen Garden, therefore, that has been well dunged the year before, let the mould for the melons be brought. For want of this, a like kind muſt be made; but this ought to conſiſt only of freſh earth from a rich paſture with the ſward, and a third part of rotten Cow-dung, which, by mixing and turning for a year and a half together, is reduced to one pure and fat mould.

The mould being in readineſs, and the bed in proper temperature to receive it, an hill of it ſhould be raiſed in each light a foot and an half high; it ſhould be rounded at the top, and the other part of the bed ſhould be covered with the mould about half a hand's breadth thick. Having thus finiſhed the hills under the lights, and ſlightly covered the other part of the bed, it ſhould be left to warm for three days, and by that time the mould will be in proper order to receive the plants.

We have ſuppoſed them to have been growing all this time with Cucumber plants, or on a common hotbed, ſuch as would have been ſufficient to raiſe plants of that nature, till they are become of proper ſize to remove, which is, when they have got into the third or rough leaf. Take them up, therefore, with the greateſt care; let not a fibre be broke, if poſſible; preſerve as much earth to each root as you can; and on each hill under each light, having juſt taken off the top to make it level, let two plants be ſet: Gently preſs the mould to the roots, and give the plants a ſprinkling of water; and this muſt be repeated once or twice, until the plants have taken root.

Having ſet two good plants under each light in this manner, the glaſſes muſt be put down. If the ſun ſhines full upon the plants at firſt, they ſhould be ſhaded with mats; the glaſſes alſo ſhould be covered with mats in nights; and in a little time they will take freſh root, and ſhew good ſigns of growth.

The moſt vigorous and moſt likely plants muſt be left ſtanding, and the others muſt be taken away; for one plant only is deſigned for each light. As this continues its progreſs, it muſt now and then be ſparingly watered, and more mould muſt from time to time be brought to the bed. A ſmall quantity only at each time ſhould be brought, and ſhould be laid cloſe to the ſtems of the plant round the hill and the reſt of the bed; it ſhould be patted down cloſe with the back of the ſpade; and this work ſhould be repeated until the bed is covered with ſixteen inches depth of mould. As the mould riſes, the frames muſt be raiſed, that the glaſſes may be properly elevated above the plants; for it would be very injurious to them, ſhould they afterwards be confined or preſſed down by the glaſſes: In this caſe, they are often ſcorched by the ſun, become drooping, and are with difficulty recovered to their former vigour.

It is a common obſervation, Head any tree or plant, and two or more ſhoots will ſucceed that which was taken off. We have only one Melon plant under each light; and in order to fill it properly with branches, the ſhoots muſt be headed, or nipped off, as they come forth. This practice muſt be begun early; and when the plant has four or five leaves, the extremity or end of it ſhould be nipped off with the finger and thumb. The conſequence of this is, two or three ſhoots or branches will be ſoon produced inſtead of one. Such a ſmall number, however, will be inſufficient to fill the light; recourſe, therefore, muſt be had to a ſecond nipping. This muſt be performed after the branches from the main ſtalk are grown a little, and the number of branches by that means will be doubled or tripled. Theſe alſo, when they are grown out a little, muſt be nipped in the like manner: And thus is the bed to be furniſhed from one plant with branches that will be ſufficient to cover it. The branches muſt be regularly placed, as they are produced; and when you find there is a ſufficient quantity, nipping off the ends muſt be diſcontinued.

During the courſe of theſe operations, the plants will call for as much air as the weather will permit, and they will require but very little water. Air muſt be given them by raiſing of the glaſſes; and when they are watered, it ſhould be by pouring a little at a time upon the mould at a diſtance from the root, taking care that it touches neither leaves nor branches.

With this management you are to proceed with your plants, until each plant has covered the ſurface of the bed, or filled the light under which it is placed.

Proviſion muſt be next made for their further extenſion of themſelves. For this purpoſe, a trench muſt be dug a yard and half wide all round the beds. To this trench ſome freſh dung muſt be brought, and it muſt be raiſed to the height of the other bed: The ſame depth of mould muſt alſo be laid on it, and patted down cloſe in the like manner with the former. This being done, the frames are to be raiſed with bricks for the branches to grow under them. Theſe will ſoon ſhoot out to a conſiderable length; and all the time that they are growing, they ſhould be regularly placed, laid at a diſtance from each other, and confined with pegs, to prevent their being diſturbed by the wind. Thus they will ſoon ſpread themſelves over the whole bed, and ſhew fruit, which, by after-management, will advance apace to perfection. As the ſhoots extend themſelves beyond the frame, they ſhould be covered with mats in cold evenings; the beds ſhould be watered about once a-week, but muſt never have it near the main ſtem; air muſt be always granted them in mild weather; and in very fine warm weather the glaſſes may be wholly taken off, and put on again in evenings: And this is to be the general management of the Melon plant during the courſe of the whole ſummer.

Thinning of all ſorts of fruit is abſolutely neceſſary to have it fine, where it is in too great quantities. So it is with Melons: A certain number only is to be ripened on each plant; and beſides thinning them, ſome further art ſtill is to be uſed to cauſe them to become high-flavoured, and grow to perfection.

Of thinning the fruit.

The proper way of thining them is to leave one fruit only, that is the fineſt and moſt promiſing, to a runner; for if you let more remain, you muſt never expect them to be good: And in order to have it high flavoured, and grow to perfection, the runner muſt be pruned, that is, it muſt be pinched off at the third joint above the fruit.

This operation of thinning and pruning ſhould take place, as ſoon as you can judge with tolerable certainty which will be the fineſt fruit. Theſe are known by being the largeſt, having the thickeſt ſtalks, and ſhewing early ſigns of eminence; and ſuch as poſſeſs theſe qualifications in that early ſtate, ſhould be left on each runner, to continue their growth to perfection.

When the plants are thus reduced, and the number of fruit thus diminiſhed, the remaining number will be rather inconſiderable; but then they will be in true flavour and perfection, and otherwiſe they will for the moſt part be hardly worth eating. A good Melon is a moſt admirable fruit, and little inferior to the Pine Apple itſelf; but a Melon which has not received all advantages from good culture, is a very bad fruit.

As theſe Melons ripen, Nature will be making proviſion for a ſucceſſion on the ſame plant; for below the parts that were pinched off, freſh runners will proceed. Theſe alſo will produce fruit in the like manner, and muſt alſo undergo the ſame operation; and thus muſt the work be continued every ten days or fortnight, until the ſeaſon is over. Every part that has been nipped off will naturally branch out afreſh: Theſe branches will naturally flower and produce fruit, which will ſucceed the others in order.

Thus from the ſame bed a ſucceſſion of fruit may be exhibited from the time of its firſt coming-in until the end of autumn.

It is cuſtomary to place tiles or ſlates under Melons, to keep them from the earth; and after they are grown to their full bigneſs, they ſhould be turned twice a week, that every part may receive all poſſible benefit from the ſun and air.

The time of their being gathered is in the morning, before the ſun ſhines hot upon them. The ſigns of their being ripe for the table are chiefly exhibited from the ſtalk, when it begins to crack and ſwell; and alſo from the fragrance it will begin to afford. The colour of the fruit is not to be regarded; for before that changes, it will be over-ripe, and the true flavour of the Melon be paſt and gone.

This then is the true way of raiſing Melons, and of having them early. It may be practiſed in all the ſorts: But leſt any bad accident ſhould happen to the plants, and where large quantities of Melons are wanted, preparations for the like proceſs of ſowing and raiſing Melons in any deſired ſorts, ſhould be made every fortnight or three weeks, until the ſeaſon for the leſs expenſive and more general way of raiſing Melons comes in.

Of raiſing late Melons.

The former method of practice is chiefly deſigned to have the different ſorts of Melons as early as poſſible in the ſummer. Plants thus raiſed and managed will ſometimes continue to produce fruit even late in the autumn; but as for the moſt part the crops will be over by that ſeaſon, and all hopes of fair and good fruit from ſuch beds be paſt and gone, it is neceſſary to raiſe a ſupply of this admirable fruit to ſucceed the others in order. And this method is attended with very ſmall trouble in compariſon of the former, and is the only one practiſed by many, who are content with having their Melons later in the ſeaſon.

In order, therefore, to raiſe this crop of Melons, let the ſeeds be ſown about the twenty-firſt of April in a Cucumber-bed, as before; and at the ſame time let dung be brought from the ſtables, laid on an heap, and turned over every four or five days, as before. A trench muſt be made for the reception of this dung, when it is in proper order, two feet deep. It ſhould be a yard and a half broad; and the length ſhould be according to the number of plants that are to be raiſed. Theſe things ſhould be preparing, while the plants are growing of proper ſize for removal in the Cucumber-bed. Three or four days before you intend this, the hot-bed in the trench ſhould be got in readineſs. It muſt be laid level, ſmooth, and be well patted down, as you go on. The largeſt litter will be at the bottom, and the ſmalleſt will come of courſe to crown the top; ſome aſhes ſhould be mixed with it as before; and this is the proper bed for the Late Melons.

To this bed rich mould, like the former, ſhould be brought, and hills ſhould be raiſed, a foot and an half high, in the like manner, at a yard and a half diſtance from each other, meaſuring from crown to crown of the tops of the hills; for there the plants are to be ſet; and that is the true diſtance they ought to ſtand aſunder. When this is done, cover the reſt of the bed with about four inches depth of mould, and immediately whelm a bell glaſs down cloſe over each heap; in about three days the mould will be ſufficiently warmed, and in right order to receive the plants from the Cucumber-bed. We ſuppoſe them to be juſt got into the rough leaf; for that is the time to remove them. They muſt be carefully taken up with a ſcooping trowel; not a fibre muſt be broken; a ball of earth ſhould be left to each root; and on every one of theſe hills two plants ſhould be ſet. The mould ſhould be gently preſſed to the ſides; a ſmall watering ſhould be afforded them; and the glaſſes ſhould be then placed over them.

When the ſun ſhines hot, the glaſſes muſt be covered with mats to ſhade the plants; they muſt alſo be covered in cold evenings, to protect them from injuries that way; and in a little time you will find your plants well rooted, and in a growing ſtate.

Air then in a greater quantity ſhould be afforded them, by raiſing the glaſſes. This ſhould come on gradually, and by little and little; and when you find the plants have four or five leaves, the extremity of each muſt be pinched off, to cauſe it to ſend forth runners, as before. Theſe runners or branches alſo muſt be pinched off in the like manner at the third joint, and the ſhoots from them alſo muſt ſuffer the ſame fate; and thus is the bed to be properly ſtored with a ſufficient quantity of branches to produce fuit.

When the runners or branches have extended themſelves to the ſides of the glaſſes, the glaſſes ſhould be raiſed to let them out; and then is the time to cover the whole bed with about half a yard's depth of mould, beating it down very cloſe.

When the runners are got out of the glaſſes, hoops muſt be placed over the bed to ſupport mats, not only to cover the plants in cold nights, but to protect them from heavy rains, than which hardly any thing is more injurious to the Melon plant, eſpecially that ſort called the Cantelupe.

When the rain is paſt, take off the mats, let them be uncovered in fine weather, and in a little time they will ſpread themſelves over the beds.

When you find this, a trench muſt be made on each ſide of the bed, a yard, or a yard and an half wide, according to the ſorts of Melons you are raiſing. Into this trench freſh dung muſt be brought, having firſt lain a proper time to heat; and it muſt be covered with the mould that was thrown out of the trench half a yard deep or more, according to the height of the former mould. The beds being widened, and the heat renewed by this addition of freſh dung, the plants will grow at a great rate, and there will be room for them to ſpread. As they extend themſelves, place them regularly, and faſten them down with pegs, to prevent their being diſlocated by the wind. Water the plants now and then in dry weather; and let it be done with a bottle, that you may pour it in at any vacant place at a diſtance from the ſtem, for water will cauſe That to canker; and though it may not wholly kill the plant, yet the fruit it will afterwards produce, will be very bad.

When the fruit is ſet, the fineſt muſt be pitched on to remain; the others muſt be taken away; and the branches muſt be pinched off, &c. as was directed for the Early crops.

Thus by this method of practice you will have Melons in perfection to ſucceed the firſt-ſown ſorts; and theſe plants will continue to afford you a ſucceſſion of good fruit until the froſt ſtops them.

Oiled papers, inſtead of glaſs, are much uſed in the ſouthern parts of England; but they ſeldom anſwer for the northern. They are eaſily made by paſting many ſheets of white wrapping-paper together, and oiling them with linſeed oil. A cover of any deſired ſize may be made this way. The frames are to be made of lath or ſplit deal, which ſhould meet at the top like ſpars on the roof of an houſe, and extend at the baſe to about ſix feet; or they may conſiſt of hoops, to be covered like a carrier's waggon: In either caſe, they ſhould be made as light as poſſible. The ends ſhould be faſtened into a wooden frame, and a light ſlip of wood ſhould run along the top, to keep the hoops in their true poſition, or to receive the ends of the laths, ſhould that method be practiſed.

The frames being finiſhed, the paper is to be next paſted on: It muſt be well oiled; and after it is perfectly dry, and the ſmell of the oil is paſt, they will be fit to protect the plants.

Theſe ſorts of coverings are very uſeful for many purpoſes in Gardening, particularly for the raiſing of cuttings of many tender ſhrubs and plants; but as the paper ſeldom laſts more than one year, their ſhort duration perhaps may be thought not to compenſate for the trouble of making them.

Of ſaving the ſeeds.

The general direction to the Gardener for ſaving of ſeeds is, To fix upon ſuch plants as are the moſt promiſing of the kinds, and to let them remain in the garden to perfect their ſeeds, to keep up the ſucceſſion in the moſt perfect way. But the Melon is an objection to this general rule: The fruit is to be gathered and eaten, before we can judge whether the ſeeds of it are worth ſaving.

As the fruit is brought to the table, Melons of different degrees of goodneſs will ſhew themſelves from the ſame bed, though the ſeeds were never ſo carefully ſaved at firſt. Whenever, therefore, any fruit of ſuperior quality appears, the ſeeds of that fruit ſhould be ſaved with care, whilſt all others are to be thrown away. The good properties of a good Melon are few, but they are admirable in their kind. A firm fleſh that is large in quantity, and of a heightened delicate flavour, is the moſt we can expect from any Melon; and a Melon that is poſſeſſed of thoſe properties, is the true Melon to afford the ſeed. From ſuch a Melon let the ſeeds and pulp be ſcooped, and laid on a plate for three or four days; then waſh them in four or five baſons of water ſucceſſively, the more effectually to clear them from the pulp. At theſe times all light ſeeds muſt be thrown away; and when they are well waſhed, they muſt be lain in a cool place to dry: When the moiſture is drained away from them, they ſhould be ſpread upon ſome ſheets of paper to make them ſtill drier. Keep them in conſtant turning; lay them very dry upon freſh paper; and when you find they are perfectly dry and clean, put them up in white paper-bags, to be hung up in the ſeed-room until they are of a proper age to be uſed. Melon-ſeed ought never to be ſowed before it is three years, nor after it is five years old; on which account the dates of the reſpective ſeeds ſhould be wrote upon the bags, and the ſorts they were collected from. Thus you will ever hereafter know the age of your ſeeds, and may make choice of ſuch ſorts as you ſhall think proper for the Melonary, whenever you want them.

The beforementioned recommended ſorts are the kinds you are chiefly to regard. The others are chiefly raiſed where gardening is carried on in its full extent. There the Zatte, the Small Portugal, and other ſmall kinds may be found, many of which are not larger than an Orange; and though the fleſh be excellent, yet there is ſo little of it, that curioſity is the chief motive for propagating them. Many very large ſorts are propagated merely becauſe they are large, to make a ſhew before ignorant perſons at table, or to ſell for a higher price in the market. Among theſe I have known good fruit; but in general they are not worth eating. The Cantelupe is the moſt eſteemed of all the Melon tribe. It is of a middle ſize, rather round than long; the coat is very rough and warty; the fleſh is firm, and of a deep orange colour. It is ſo called from a place of that name in Italy, where it is propagated in great plenty; in ſhort, it is the moſt univerſally propagated by the curious, and is the beſt Melon of all the ſorts.

Titles.

The Melon is titled, *Cucumis foliorum angulis rotundatis, pomis toruloſis.* Caſpar Bauhine calls it, *Melo vulgaris*; and John Bauhine, *Melo.* The place of its natural growth is not certainly known.

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C H A P. III.

CUCURBITA CITRULLUS, WATER-MELON, or CITRUL.

Introductory Remarks.

THERE are few of the hot countries of the world, where the Water-Melon or Citrul is not cultivated for the ſake of the fruit: In Spain and Portugal there is hardly a Garden of note without them; in Africa alſo they are no leſs propagated; and in the gardens of Aſia and America they abound. And no wonder! for they are exceedingly wholeſome, are poſſeſſed of a cooling quality, and have a very fine flavour.

Among the Engliſh, indeed, in general this fruit is not in ſuch high eſteem; it being of too cool a nature for moſt of them: Nevertheleſs, as ſeveral with us are exceedingly fond of it, and prefer it to moſt other ſorts of fruit, let ſuch take the following directions to raiſe it to perfection.

Culture.

Provide a good hotbed by the beginning of February, conſiſting of freſh dung well-wrought, and beaten down very cloſe. Cover this with four inches of rich, light earth, ſet on your frames, and raiſe the glaſs with a ſtone to let out the ſteam. When the bed is in proper temper, which will be in a few days, ſow the ſeeds in rows, covering them down half an inch deep. From this time a regular temperature of the bed muſt be attended to. The ſeaſon at that time is generally very cold, and the nights are intenſe; ſo that you muſt be ſure to cover the glaſs with mats well in evenings; and if your bed ſhould heat violently, and the weather prove mild, you muſt raiſe your glaſs, and give the bed as much free air as poſſible. The plants will ſoon be up, and in a fortnight will be ready for another bed. Let this be in readineſs againſt that time, and remove the plants to it with care. In this bed loſe no opportunity of fine weather to give the plants air, by raiſing the glaſſes; for if they draw weak, the fruit will be ſmall, inconſiderable, and of little value. When the heat of this bed is abated, they muſt have a third. Againſt this time let a ſufficient quantity of ſmall baſkets be provided: Fill theſe with mould, and ſet the plants in them; and let a ſingle plant, or two at moſt, be ſet in each baſket. Remove theſe to the bed, ſet them as cloſe as poſſible, and fill the vacancies up to the ſurface: As the plants begin to ſhoot, take out the weakeſt; for one plant will be enough for a baſket.

In this bed the plants may continue until they put out runners; during which time, as the heat of the bed abates, add a lining of warm dung all round it.

From this bed they are to be removed to the general bed where they are to flower and fruit. The ſize of this muſt be according to the quantity of fruit deſired to be raiſed; tho' it is to be obſerved, that a few plants will overſpread a large ſpace, and that this Melon requires room to produce good fruit. A healthy plant, therefore, will be ſufficient for three lights; which ſhews, that a very few plants will be ſufficient for a large family; and teaches us alſo, that if Melons and early Cucumbers are raiſed, they may undergo their firſt management with them, without the trouble of diſtinct hotbeds for them. When they are ſet out for good, direct the runners ſo that they may occupy the whole ſpace, but not to crowd each other. Give them air conſtantly in fine weather, and cover the glaſſes with mats in cold nights; keep them clean from weeds, water them moderately and frequently, and with this management the fruit will be brought to perfection, and be good for uſe.

There are ſeveral ſorts of this melon, differing in the ſize of the fruit; but thoſe with ſmall round fruit ripen the beſt with us, and as ſuch ſhould be preferred in our gardens.

Titles.

This ſpecies is titled, *Cucurbita foliis multipartitis*. Caſpar Bauhine calls it, *Angaria Citrullus dicta*; John Bauhine, *Citrullus folio colocynthidis ſecto, ſemine nigro*. It grows naturally in Apuglia, Calabria, and Sicily.

CHAP. IV.

FRAGARIA VESCA, The STRAWBERRY.

Introductory Remarks.

THE Strawberry is ſuppoſed by many to be poſſeſſed of the fineſt flavour of any fruit in our Gardens. There is a fragrance, indeed, belonging to it, which is not to be exceeded by the fineſt Melons, or the Pine Apple itſelf. This is more heightened in ſome varieties than in others; but the meaneſt Strawberry is an admirable fruit, worthy of cultivation; and would be thought a valuable acquiſition to our Gardens, were it now to be only firſt introduced, and were there no other ſort yet known.

The many Strawberries of our Gardens compoſe but one real ſpecies. The Common Wood Strawberry is with good reaſon ſuppoſed to be the mother of them all; and indeed, it is by many allowed to be the beſt of them all: The varieties, however, are truly valuable; and the ſorts principally cultivated are,

The Common Scarlet Strawberry.
The Large Virginian Scarlet Strawberry.
The Common Wood Strawberry.
The White Strawberry.
The Green Strawberry.
The Common Hautboy.
The Large Round-fruited Hautboy.
The Red Carolina.
The White Carolina.
The Alpine.
The Chili.

General deſcription of the above ſorts.

The Scarlet Strawberries are well known, and come in firſt. The White Strawberry ſucceeds them in order, and is valuable for its quickneſs of taſte. The Green Strawberry is later ſtill, and if planted in a moiſt, loamy ſoil, is a large, firm, fine-flavoured fruit. The Hautboys follow the Scarlet: But the Red and White Carolina ripen almoſt as ſoon as them. The Alpine is called the Monthly Strawberry; for as its ſhoots ſtrike root, and produce freſh plants, ſo theſe, when grown to a proper ſtrength, ſend forth bloſſoms, and produce fruit; ſo that there is often a ſucceſſion of them continued this way for many months. The Chili is a large, fair, firm fruit; but it is ſo bad a bearer that it is hardly worth cultivating. A few plants ought, however, to be preſerved as a curioſity, among other perennial flowers; for it is a notable variety of this *Fragaria*. The leaves are large, oval, of a fleſhy ſubſtance, very hairy, and are placed on long, ſtrong footſtalks. The ſhoots from the plant are very large, hairy, and, like the others, ſtrike root, and produce freſh plants as they go along. The flowers are very large; they grow on long, hairy footſtalks, and in ſome ſoils are ſucceeded by a tolerable quantity of fruit, while in others they can be ſcarcely made to bear at all.

Culture.

The general culture of Strawberries is eaſy; and they produce crops without much expence or labour: Theſe are articles of very great conſequence, and would enforce their culture, were they poſſeſſed of leſs good properties than they really enjoy.

The firſt thing to be regarded is the ſoil. This ſhould be rather ſtrong, tolerably moiſt; and if it be freſh, ſo much the better. In a dry or ſandy ſoil, they are apt to be burnt up, and produce little fruit, unleſs wet ſummers happen; and in a very fat ſoil you muſt never expect a very good crop; for in ſuch ſoils they grow too luxuriant and rambling to ſet their fruit well, and bring it to perfection. Having therefore made choice of a moiſt, ſtrong, freſh, undunged, yet nevertheleſs tolerably rich part of the garden, let it be double-dug, if the depth of mould will bear it; and let the ſurface be made level and ſmooth. Then lay it out in beds four, five, or even ſix feet broad, according to the plants you are about to propagate; let alleys be made between the beds, but let them be nearly of a level with them; for if they are ſunk low, they keep the beds dry, and render them leſs ſuitable for the plants that are to occupy them. Every one of the beds ought to contain four rows. They ſhould be planted a foot aſunder, and the outſide rows ought to be ſix inches from the alleys; ſo that a bed of five feet will be ſufficient to hold four rows, at a foot diſtance from one another every way, of moſt of the common ſorts of Strawberries. With regard to the Carolina ſorts, the beds ought to be ſix feet wide, and the plants placed at a greater diſtance from each other proportionally; and with reſpect to the Chili, three rows for a bed of ſix feet in breadth will be ſufficient; for it is ſo large and ſtrong-growing a plant, that the ſets ought to be more than half a yard aſunder.

The ſeaſon for this work is any time in the autumn; though, if the beds could be made in Auguſt, or as ſoon as the young plants which are formed from the ſhoots are ſtrong enough to remove, it will be better; for ſuch plants will be grown bold and ſtrong before the winter, and will produce plenty of fruit for flowering; whereas, if the beds are not made until October, as is too often practiſed, little or no fruit may be expected from it the ſucceeding ſeaſon.

With reſpect to the plants themſelves, they ſhould never be old roots, but ſuch young plants or off-ſets as have been produced from the ſhoots near the old roots. They ſhould be taken from fruitful plants; and on a proper obſervation of this, the ſucceſs of your future crops will in a great meaſure depend. We often ſee ſtrong beds of plants which produce fair flowers in plenty, but are rarely if ever ſucceeded by any fruit. The Gardeners term theſe, Blind Plants. To account for this the Reader muſt know, that in every flower of the ſtrawberry there are many male and many female parts; and whenever either of theſe is deſtroyed by any accident, or too long a ſameneſs of culture, no fruit can ever ſucceed the flowers. I have never yet known the ſtamina to be deſtroyed in the flowers called Blind ones. Examine them, and they will be found perfect and good; but let the Gardener ſeek for the female organs, and he will find them to be wanting: No wonder, therefore, that ſuch flowers never produce any fruit. If your off-ſets are taken from ſuch kind of plants, they will be ſtill a greater degree removed from fruitfulneſs than the plants from which they were taken, and never can be made to bear.

Having a ſufficient quantity of proper plants, and having planted them in the beds, at the abovementioned diſtances, preſſing the mould well to the roots, the next thing to be immediately done is to give them a good watering, if the ſeaſon ſhould be dry; and this watering ſhould be repeated occaſionally until rain makes it unneceſſary.

In winter it is cuſtomary to ſtrew ſome coal-aſhes, leaves, or tanner's-bark, over the beds, to keep out the froſt; but this I ever found unneceſſary. Strawberries, in general, are hardy enough to reſiſt the cold of our ſevereſt winters. The Chili alone ſeems to give way to our moſt cutting froſts, the plants being often weakened by them; but they are very ſeldom deſtroyed; ſo that with reſpect to this ſort, it may not be amiſs to prick round the beds ſome furze-buſhes, or the like, at the approach of hard weather, and that will be ſufficient to enſure their ſafety; but with regard to all the reſt, you need be under no anxiety about their ſuffering from any effects of froſt or cold.

In the ſpring, care muſt be taken to deſtroy the weeds, as they ariſe; the runners muſt be taken off from the plants, as they are produced; water muſt be afforded them in dry weather; and you may reaſonably expect a pretty good crop of Strawberries, if the beds were made the Auguſt before.

Pulling off the runners, and keeping the plants clean from weeds, muſt be practiſed all ſummer, and the ſpring following there will be a general crop of fruit. From the time of the plants being in bloſſom until the fruit is ripe, they muſt be conſtantly watered, unleſs a moiſt ſeaſon makes it unneceſſary. No plant exhibits ſo apparent a difference between a dry and a wet ſeaſon in the fruit, as the Strawberry. When a ſucceſſion of natural ſhowers happens, then you will have Strawberries in perfection; but for want of theſe, watering muſt be uſed; and this will in ſome meaſure ſupply their place, and contribute towards a good and plentiful crop.

After the fruit is paſt, the plants muſt be kept clean from weeds the remaining part of the ſummer; in autumn all decayed leaves and weak runners muſt be taken off, the alleys ſhould be dug up, and about half an inch of very fine mould ſpread over the top of the beds; and having neated the whole up, they will be in proper order to remain the winter. If hard froſts ſhould be likely to ſet in, ſtick ſome furze-buſhes round the Chili Strawberries, and lay ſome leaves or old tanner's bark upon the beds, between the plants; but you need not give yourſelf this little trouble for any of the other ſorts: And when all danger of ſuch weather is over, let the ground be ſtirred on the ſurface, but not deep, with a narrow ſpade or hoe. By thus ſlightly digging it, it will be more fit to receive the ſhowers and dews; but if dug two feet, as is often practiſed, it grants too free admiſſion to the drying winds, which frequently happen in the ſpring, and cauſe a great check to plants of all ſorts.

Some cover the ground with moſs, not only to keep it from cracking, but to enſure cleanlineſs to the fruit when heavy rains happen. This method may be practiſed in ſome gardens; but in others, where inſects, ſnails, &c. are liable to breed, it will harbour them, and cauſe more filthineſs to fruit than any quantity of dirt that can poſſibly be raiſed by the rains.

The practice of this method, therefore, muſt be governed by the nature of your ſoil and ſituation. Some gardens are ſo naturally clean, that the produce matures untainted to perfection, without ſuffering from the attacks of filthy inſects, &c. Others breed them in ſuch plenty, that if all the care imaginable is uſed, you cannot poſſibly keep them clean; for ſlugs, ſnails, nay frogs and newts, will at times in ſome damp ſituation be found all over the garden: Whenever this is the caſe, all occaſion of harbour muſt be removed, eſpecially among the Strawberries, and ſuch kind of eſculents as are more directly brought to the table.

This is the general management of the Strawberries; and with this management you are to go on with your beds for three or four years, when it would be adviſeable to extirpate the roots, and plant new; for old roots never bear ſo well as young ones, neither is their fruit ſo fair and good.

This new plantation ſhould be made upon a freſh ſpot of ground; and, previous to the making of it, a ſufficient number of plants ſhould be left untouched the ſpring before, to furniſh you with proper ſets for the purpoſe; for by ſuffering the runners to proceed in their courſe, they will ſoon afford you plenty of young plants. Thoſe neareſt the old root are the beſt for the purpoſe; and when they are grown of proper ſize to remove, they ſhould be taken off, and a new plantation proceeded on as before.

Of early Strawberries.

Strawberries may be brought forward by hotbeds, and, where there is the conveniency of a ſtove, may be made to produce fruit at any deſired ſeaſon of the year. Under hot walls alſo they may be obtained early; ſo that where Gardening is carried on in any tolerable extent, plenty may with certainty be had in winter, and the earlieſt months of the ſpring.

There are few, however, who are maſters of ſtoves and hotbeds; but it is in the power of almoſt any-body to have them. Such as are deſirous of having Strawberries ſome months before their uſual time of ripening, muſt purſue this method of practice.

In October get ſome good ſtrong off-ſets of the Alpine Strawberry, which is by far the beſt, of all, for forcing; though the Scarlet and the Wood, before this ſort was known, were chiefly uſed for thoſe purpoſes. Plant theſe in ſmall pots filled with good, freſh, loamy earth; give them a good watering, and then plunge them up to the rims in a warm part of the Kitchen Garden. Here let them ſtand all winter, and cover the ground about them with tanner's-bark to keep out the froſt; for though That will not deſtroy them, yet it will backen them; and plants for forcing ought to be as forward as poſſible.

In the ſpring they ſhould be ſet in larger pots, the roots ſhould be pared, and the pots ſhould be then plunged up to the rims in a ſhady part of the garden. Soon after this, they will put forth flowers: Theſe muſt be carefully nipped off as they come out; for they muſt bear no fruit all that ſummer; the runners alſo, as they are produced, muſt be taken away; water muſt be given them frequently, and every expedient uſed to cauſe the plants to be as ſtrong as poſſible. In October the pots ſhould be removed to their former ſituation, and be plunged up to the rims in the common mould as before. Protection ſhould be granted them, if the weather ſhould prove very ſevere; for this will bring them vaſtly forward, even in thoſe places, and render them more fit for the purpoſe: The covering, whatever it be, ſhould be always taken off on the firſt return of mild weather; and there they may remain until they are to take their place in the hotbed.

The hotbed ſhould be in readineſs by the middle or end of December. The dung ſhould be freſh and good from the ſtables, with a mixture of coal-aſhes: It ſhould have lain twelve days or a fortnight, with the uſual turnings, before it is uſed; and when it is made into the bed, the frames and glaſſes ſhould be immediately put on to protect it from rain. The glaſſes ſhould be raiſed to let out the ſteam; and in about four or five days ſome cow's dung, or, for want of this, old rotten dung of any ſort, ſhould be ſpread over the top of it to keep down the heat. Upon this place the pots cloſe to each other, and fill up the vacuities with any common mould. From this time water the plants frequently, give them as much air as the weather will permit; and if the bed has been well wrought, it will keep up a regular and uniform heat; and in ſuch a bed your plants will flower by the middle or end of February. From the firſt, if the bed ſhould be in any extreme, it is eaſily brought to a due regulation to cheriſh the plants. Nothing is more eaſy than to raiſe the pots a little, if the bed ſhould happen to heat too violently; and nothing is ſo ſucceſsful to renew the heat, ſhould it happen to abate in too great a degree, than by adding a lining of freſh dung. Thus from the danger of either extremes your plants may be eaſily defended; and in this medium you muſt move as nearly as poſſible, if you expect a plentiful crop.

By the time your plants are in flower, you may expect the heat of your bed to be exhauſted; and reaſon directs a ſecond hotbed to be ſubſtituted in its room, to continue the plants and fruit in an uninterrupted growing ſtate.

Let a ſecond hotbed, therefore, be in readineſs againſt this time; and as the roots of the plants are liable to be injured by too great heat, let a layer of cow's dung, about two inches thick, be ſpread equally over the ſurface of the bed; and upon this alſo lay three inches thickneſs of the ſame ſort of mould the Stawberries were at firſt planted in. When this is ſufficiently warmed, which will be in a day or two, the plants muſt be taken out of the pots, and ſet in this new mould. All the earth muſt be preſerved to the roots, which may eaſily be done if they are turned out with care. They ſhould be ſet as cloſe together as poſſible; and all the vacuities between the balls ſhould be filled up with the like kind of rich, freſh, loamy earth. At this time a ſmall watering ſhould be afforded them; and this ſhould be repeated occaſionally, as you find it neceſſary: Air muſt be granted the plants on all poſſible occaſions, and you will find them advance apace towards perfection. The roots, ſoon after their removal, will ſtrike into the new mould of the bed; and this refreſhment, together with proper air and water, will invigorate the plants, cauſe them to be hearty and ſtrong, make them ſet their fruit well, and bring it to perfection in abundance.

From beds thus managed, good fruit of the Alpine Strawberry may reaſonably be expected by the latter end of March, or the beginning of April; which, to thoſe who delight in ſuch things before their uſual time, will be highly valuable.

Where there is the conveniency of a ſtove, Strawberries may be eaſily had at any time of the winter. The plants ſhould be raiſed in pots, as before; and as the early colds advance, which they often do by the end of October, or the beginning of November, the pots ſhould be placed under an hotbed frame to keep the plants warm, the better to prepare them for forcing. In this place they may ſtand a month, or longer if you chooſe it; from which if they are removed into the ſtove, and plunged up to the rims in the bark bed, the plants will ſoon come into flower, and produce fruit; which will be earlier or later, according as they have been earlier or later brought into the ſtove.

If there is no room for ſuch plants in the tan-bed, they will do very well in the dry ſtove, or they may be placed any where on the floor near the glaſſes of the houſe. But then the plants, on their laſt removal, ſhould be ſhifted into large pots, otherwiſe it will be difficult to keep the mould in proper order, and prevent it, when it is in ſo ſmall a quantity together, from drying too faſt. When their ſtation is to be in the dry ſtove, nothing more is to be done than to bring the plants in at any deſired time, placing them near the glaſſes for the benefit of the ſun and air. Water them frequently, though not in too great quantities at a time, eſpecially when they are in flower, and they will not fail to produce you plenty of fruit.

Some get an hotbed in readineſs by the end of October. On this they place their pots; and when the heat of the bed declines, they remove them into the ſtove; and by placing them near the glaſſes, and duly affording them water and air, the fruit will be ripe the end of January, or early in February.

Strawberries are alſo brought to be ripe very early in borders belonging to hot-walls. They muſt be raiſed in pots, as before; and the buſineſs of raiſing freſh plants for a ſucceſſion ſhould be practiſed every year. Having, therefore, a ſufficient number of plants in readineſs, turn them out of the pots with the mould at the roots, and let them be planted very cloſe in the border of the hot-wall. In this place they will ſoon flower, and may be made to produce fruit earlier by ſeveral months than they otherwiſe would have done in the open ground.

In all places, whether in the ſtove, in the hot-beds, or borders of hot-walls, as ſoon as their fruiting is over they ſhould be taken away, for they are then of no further uſe. In all places they muſt have as much air as poſſible, otherwiſe they will grow weak, and their bloſſoms will drop off. They muſt be conſtantly watered, though always with moderation, for too much moiſture is injurious to them in theſe ſituations; and after they have once bore fruit in the hot-wall border, if the work is deſigned to be repeated, the whole earth muſt be taken away two feet deep, and the border filled up with freſh mould: And this buſineſs muſt be annually performed, as long as you intend to raiſe Early Strawberries that way.

Thus numerous are the methods of bringing Strawberries to be ripe earlier than their uſual ſeaſon; all of which are very eaſily practiſed; ſo that whoever is deſirous of ſuch fruit, need not be diſcouraged from putting theſe rules into execution; and if they are attended to with any tolerable vigilance, he need not doubt of ſucceſs.

Of raiſing Late Straw-berries.

Since the introduction of the Alpine Strawberry into our Gardens, the practice of obtaining Late Strawberries has been rendered in a manner uſeleſs, becauſe theſe plants will often continue bearing until the end of ſummer, longer than which nobody need deſire them; for the cold dews in the nights at that ſeaſon take off the fine flavour from the fruit, and render it of no value. The general laws, however, for a late crop are, 1. To plant them in the ſhade; which ſhade ought to be a reed-hedge, or ſome *pro tempore* fence which may be removed, and not the border of a north wall, or the like. 2. The flowers, on their firſt appearance, ſhould be immediately taken off. 3. They ſhould have little or no water all ſummer; on the contrary, the bed ſhould be hooped, that the plants may be covered with mats to prevent the genial ſhowers from falling on them. Having thus treated your plants through any deſired part of the ſummer (which muſt be continued longer, or diſcontinued ſooner, according to the time you would chooſe to have them ripe in the autumn), take away the frame that cauſed the ſhade, and place it behind them, that the plants may be expoſed to the full ſun, and ſecured from the cold dews which drive with the northern winds: Give them plenty of water, and in a little time they will exhibit a freſh blow of flowers, which will ſoon be ſucceeded by plenty of fruit.

Thus may Strawberries be had at almoſt any time in the year, but late in the autumn they ought leaſt to be coveted; as at that ſeaſon they loſe their flavour, become inſipid, and are of little value.

Titles.

The Strawberry is titled, *Fragaria flagellis reptans.* Caſpar Bauhine calls it, *Fragaria vulgaris.* The varieties have titles in old authors expreſſive of their natures. Thus one is called, *Fragaria fructu albo*; another, *Fragaria fructu parvi pruni magnitudine*; another (i. e. the Chili) *Fragaria Chiloenſis fructu maximo, foliis carnoſis hirſutis, &c.* It grows naturally in England, and moſt of the northern countries of Europe.

C H A P. V.

RUBUS IDÆUS, The RASPBERRY.

Introductory remarks.

WHILE many acknowledge the ſuperiority of flavour in the Strawberry, others contend for its being ſurpaſſed by the heightened fragrance of the Raſpberry: Different taſtes are peculiar to different men; and there is no fruit, however excellent, which is reliſhed by all alike. I have known the Pine Apple to be deſpiſed, and a coarſe Pear or Plum to have been frequently commended.

The Strawberry is the moſt delicate fruit, and ſeems peculiarly adapted to the table; the Raſpberry, at the ſame time, muſt be acknowledged to be excellent, and of more general uſe, for it ſerves many culinary purpoſes, and is valuable in ſauces of many kinds.

There are many varieties of this fruit; but thoſe which principally merit cultivation are,

Sorts.

The Large Red.
The Large Purple.
The Large White.
The Twice-bearing.
The Smooth Raſpberry.

They grow naturally in our copſes and marſhy grounds, where the fruit is ſmall, and inſipid. From thence they were originally brought; and by good culture and management the above valuable varieties have been obtained.

Proper ſoil. In order to keep theſe varieties in their full perfection, the ground ſhould be rather moiſt, loamy, and the plants ſhould be ſet at a conſiderable diſtance from each other; for nothing tends ſo much to diminiſh the value of this fruit as planting them in beds, which is the common practice. In ſuch places they are ready to choak one another, the ground not having nouriſhment enough to afford the plants and fruit their full growth; the benefit the fruit would receive from the free air is in a great meaſure deſtroyed; and the fruit, accordingly, muſt be expected to be in proportion mean and inſipid.

Culture. Having got, therefore, a ſufficient quantity of plants of the beſt ſorts, let the ground be well dug, and let them be ſet in rows. The rows ſhould be four feet aſunder, and the plants ſhould be two feet diſtant from each other in the rows. The ſets ſhould be ſtrong plants; the tops ſhould be cut off, and the fibres ſhortened; but the eyes near the root upon the ſtem ſhould by no means be rubbed off, for theſe are to form the next year's ſhoots. The autumn is the beſt time for the work, though it may be done in the winter or ſpring; and if the weather ſhould prove very dry, as frequently happens in the ſpring months, the plants ſhould be watered until they have taken root: If a dry ſummer ſhould follow, it will greatly help the plants, if you beſtow upon them at times a good watering. The firſt ſummer after planting they will produce fruit, which will be later in the ſeaſon than its uſual time; and the ſummer following a general crop may be expected, which will be in its full ſize and flavour.

Every autumn, the old rotten ſhoots which have borne the fruit ſhould be cut up, and the young ſhoots that are to produce the fruit the ſummer following ſhould be ſhortened to about two feet or a yard in length, according to their ſtrength. The ground between the rows ſhould be then dug; and this, together with keeping them clean from weeds at all times, is the whole trouble they will require.

Once in four years begin a freſh plantation, in the like manner, upon a freſh ſpot of ground; but do not eradicate the old bed until the new one has ſtood one year, and will afford you a general crop to ſucceed in due order.

Every one of tolerable experience knows what ſmall fruit, and how little in quantity, is gathered from old Raſpberry beds; ſo that to have it fair and in plenty, a renewal of the beds muſt be made at proper intervals.

Titles. The Raſpberry is titled, *Rubus foliis quinato-pinnatis ternatiſque, caule aculeato, petiolis canaliculatis.* In the *Flora Lap.* it is termed, *Rubus caule erecto hiſpido, foliis ternatis.* Caſpar Bauhine calls it, *Rubus idæus ſpinoſus*; alſo, *Rubus idæus fructu albo*; alſo, *Rubus idæus lævis.* It grows naturally in England, and moſt countries of Europe.

CHAP. VI.

RIBES GROSSULARIA, The GOOSEBERRY BUSH.

Introductory Remarks. THE ſpecies of this genus are divided into two claſſes, the Smooth and the Prickly ſorts. The Smooth kinds are the Currants, and the Prickly ſorts are the different kinds of Gooſeberries.

Of the Gooſeberry kinds, there are five diſtinct ſpecies; and the varieties of theſe that are uſeful for our tables are very numerous.

Various uſes of the Gooſeberry. The Gooſeberry, though it is generally reckoned an inferior ſort of fruit, has nevertheleſs its advocates for being the beſt fruit in the world. It comes in early; and the varieties of it are ſo many, and ſo different, that one or other of them will ſuit moſt palates which have any reliſh for fruit at all. Valuable, however, as it is as an eatable fruit, it has other excellencies to recommend it to our notice; it is admirable in tarts and pies, uſeful in ſauces, and delightful wine may be alſo made of it at a ſmall expence.

Principal ſorts. The principal ſorts of Gooſeberries now propagated in our gardens are,

The Early Sugar Green.
The Large Rough Green.
The Early Black.
The Amber.
The Cryſtal.
The Raſpberry.
Richmond's Raſpberry.
The Old Red.
The Great Mogul.
The Ironmonger.
The White Veined.
The Seedleſs.
The Large Rough Red.
The Champaign.
The Red Rumbullion.
The White Rumbullion.
The Green Rumbullion.
Aſlet's Black.
Green Gaſcoigne.
Large Oblong Yellow.

Culture. All theſe are very eaſily propagated; for every ſlip and cutting of the Gooſeberry Tree will grow. In order to have a good nurſery of Gooſeberry Trees, however, let ſome ſtrong cuttings be taken from the beſt-bearing plants of the different ſorts: The end of September, or the beginning of October, is the beſt time for the work. Let the top of each cutting be taken off, leaving it about ſix inches long, and taking care to keep the ſorts ſeparate; then plant them in rows, and in a well prepared ſpot of ground, two feet aſunder; and let the plants be about nine inches from one another in the rows: Preſs the mould down cloſe to each cutting, and you need not be very anxious about ſucceſs, for every twig will grow. If it happens to be dry weather, however, it may not be amiſs to give them ſome water, and to continue this at times until the autumnal rains come on. In the ſpring alſo, if the weather ſhould prove very dry, as it often happens, they will be the better for being refreſhed in the ſame manner. Keep them clean from weeds all ſummer; and if theſe plants are deſigned for eſpaliers, or to be ſet againſt walls, fan them for the purpoſe; but rub off all the ſide-ſhoots of the others as they are produced, and train them to an upright ſtem. In autumn the eſpaliers ſhould be removed to the places where they are to remain; for the plants receive the leaſt check when removed ſmall and young, and will thus be better diſpoſed for training afterwards. Thoſe deſigned for ſtandards may remain another year; in the autumn, therefore, let them be headed to a foot or a foot and an half high, according to your taſte; they will then form themſelves into good heads, and in the autumn may be removed to the places where they are deſigned to grow.

When large quantities of this fruit are wanted, either for ſale or other purpoſes, the plants are generally ſet in rows eight feet aſunder, and ſix feet diſtant from each other; and when they are ſet for eſpaliers, they ſhould be allowed eight feet of room for the branches to extend themſelves.

Their after-pruning is very eaſy. With reſpect to the eſpaliers, little more is to be done than to train the branches horizontally, taking off all irregular ſhoots, and ſhortening the others as you find it neceſſary: And with reſpect to the ſtandards, all the pruning they require, is to keep the heads open by taking out all weak ſhoots that crowd the others, and ſuch alſo as croſs, or any ways tend to deſtroy the beauty and freedom of the buſh.

Suckers from both ſtandards and eſpaliers muſt be conſtantly taken off as they are produced; and the Gardener hardly need be told, that to have both Currants and Gooſeberries in any tolerable perfection, the expoſure ought to be open and not confined; much leſs ought they to be planted under the drip of trees, as is too often practiſed.

The five diſtinct ſpecies of the Prickly Currant or Gooſeberry are thus titled:

Titles.

1. The Broad-leaved Purple Gooſeberry is titled, *Ribes ramis ſubaculeatis reclinatis, pedunculi bracteâ triphyllâ.* In the *Hort. Cliff.* it is termed, *Ribes ramis ſubaculeatis reclinatis.* Caſpar Bauhine calls it, *Groſſularia ſpinoſa ſativâ altera, foliis latioribus*; and John Bauhine, *Groſſularia ſpinoſa, fructu obſcurè purpuraſcente.* It grows naturally in Germany and Switzerland.

2. Large Rough Pearl-coloured Gooſeberry is titled, *Ribes ramis aculeatis, petiolorum ciliis piloſis, baccis hirſutis.* In the *Hort. Cliff.* it is termed, *Ribes ramis aculeatis, racemis erectis, baccis hirſutis.* In the *Hort. Cliff. Ribes ramis aculeatis erectis, fructu hiſpido.* Ray calls it, *Groſſularia, fructu maximo hiſpido margaritarum ferè colore.* It grows naturally in moſt parts of Europe.

3. *Oxyacantha*-leaved Gooſeberry is titled, *Ribes ramis undique aculeatis.* Plukenet calls it, *Groſſularia, Oxyacanthæ foliis amplioribus, è Sinu Hudſonis.* It grows naturally in Canada.

4. Wild Smooth-pointed Gooſeberry is titled, *Ribes ramis aculeatis erectis, baccis glabris, pedicellis bracteâ monophyllâ.* In the *Hort. Cliff.* it is termed, *Ribes ramis aculeatis erectis, fructu glabro*; and Caſpar Bauhine calls it, *Groſſularia ſimplici acino vel ſpinoſa ſylveſtris.* It grows chiefly in the Northern parts of Europe.

5. Prickly-fruited Gooſeberry is titled, *Ribes aculeis ſubaxillaribus, baccis aculeatis racemoſis.* It grows naturally in Canada.

Claſs and Order in the Linnæan Syſtem

Ribes is of the Claſs and Order *Pentandria Monogynia*; and the characters are,

The characters.

1. CALYX is a monophyllous, ventricoſe, permanent perianthium, divided into five oblong, concave, coloured, reflexed ſegments.

2. COROLLA conſiſts of five ſmall, obtuſe, erect petals, growing from the border of the calyx.

3. STAMINA are five ſubulated, erect filaments, inſerted in the calyx, having compreſſed, incumbent antheræ.

4. PISTILLUM conſiſts of a roundiſh germen ſituated below the flower, and a bifid ſtyle, with obtuſe ſtigmas.

5. PERICARPIUM is a globoſe, umbilicated, unilocular berry, having two lateral, oppoſite, longitudinal receptacles.

6. SEMINA. The ſeeds are many, roundiſh, and compreſſed.

CHAP. VII.

RIBES, The CURRANT-TREE.

THE many varieties of Currants which are found in our Kitchen Gardens belong to one or other of the following ſpecies:

Species.

1. The Common Currant.
2. The Sweet Mountain Currant.
3. The Black Currant.

Valuable properties of the Common Currant.

1. The Common Currant, in all its varieties, is, perhaps, as uſeful a fruit as any that is found in our Kitchen Gardens. It is not only valuable at the table to be eaten as fruit, but ſerves for many culinary purpoſes, affords good wine, and is uſeful in medicine. It is poſſeſſed of a very cooling property; the quickneſs of taſte belonging to it has a great tendency to aſſuage thirſt; it creates an appetite; and as it is exceedingly inoffenſive to almoſt all conſtitutions, it tends very much to keep the body in due temperature at that ſeaſon of the year when they are ripe, which often proves too heating to the blood, and over-powering to the animal ſpirits.

This admirable fruit is found growing, with us, in a ſtate of Nature in our moiſt grounds, among buſhes, in hedges, and in woods, there it goes by the name of the Wild Sour Currant. From this, by good culture, our other and better ſorts have been obtained; ſo that we have now in our Gardens,

Its Varieties.

The Old Red Currant.
The Long-bunched Red Currant.
The Champaign Currant.
The Small White Currant.
The Large White Dutch Currant.
The Large Red Dutch Currant.
The Gold-blotched Currant.
The Gold-ſtriped Currant.
The Silver-ſtriped Currant.

TheSweet Mountain Currant deſcribed.

2. The Sweet Mountain Currant is preſerved in ſome gardens more for variety than real uſe. The fruit is ſmall, and the bunches grow erect; and though it is called the Sweet Mountain Currant, it is poſſeſſed of little flavour. There are two or three varieties of it, differing in the ſize and diſpoſition of the fruit, and alſo in the taſte of it; but they are ſtill inconſiderable, and none of conſequence enough to force themſelves into our Fruit Garden, ſo as to claim a ſettlement for the encreaſe of a riſing family on that account.

Valuable properties of the Black Currants.

3. The Black Currant ought to be held in high veneration for its great uſe in quinſeys and ſore throats. It is the ſyrup or rob that is ſo ſerviceable in thoſe caſes; and on which account it ought to be in readineſs in all families, to aſſiſt in affording relief when theſe diſorders, which often become general in a pariſh or county, happen. But it does not deſerve cultivation for thoſe uſes only, for it is a moſt ſalutary and wholeſome fruit: Indeed there are few who can reliſh it at firſt, as it is poſſeſſed of a kind of phyſical ſweetneſs, which to many is altogether diſagreeable; nevertheleſs, when the plants are ſtationed in a warm place, and the fruit has had all the advantages of the ſun and air, and is full ripe, it becomes then palatable: Nay, I have known many, by the conſtant uſe of this fruit, find the diſlike they had conceived for it wear off, and their reliſh for it ſo much improved, that in a little time they have preferred it above any fruit in the garden, and declared it to be the beſt fruit that is eaten. The palate is brought to ſubjection in the like manner, in other caſes; ſuch as in Celery, Oyſters, &c. and whoever conſiders the extraordinary wholeſomeneſs of the fruit ſhould endeavour to make their reliſh ſubſervient to the like diſcipline. There are two or three varieties of this ſort, but all fall vaſtly ſhort in value to the Common Stinking Black Currant. The Penſylvania kind, indeed, merits a place more as a curioſity in a collection of ſhrubs; for the whole plant is of a more delicate nature than our ſort. It is a more regular growing tree; the bark is darker-coloured; the leaves are much finer, ſmoother, ſmaller, of a thinner conſiſtence, and in a great meaſure free from the ſtrong diſagreeable ſcent of the Common ſort; but then the fruit is ſmall, and of little virtue; and as the tree is at beſt but a bad bearer, a plant or two only at the moſt, for variety, ſhould be found among the others.

Culture of Currants.

All the ſorts of Currants are eaſily propagated. It is done by planting the cuttings, which will grow in a ſhady place, if ſet at any time of the year. The beſt ſeaſon for planting them is the autumn; and if they are deſigned to be removed into the Kitchen Garden to grow and bear fruit at random, they need not be ſet at a greater diſtance than nine inches from each other; for by the autumn following they will have taken good root, and may be removed to the places where they are deſigned to remain.

If they are deſigned for ſtandards, for eſpaliers, or to be ſet againſt walls, they may remain in the nurſery two years, and the plants be trained for thoſe purpoſes, as they ſtand in the rows; tho' it will be beſt, if the ground where they are to be ſhifted to is in readineſs to receive them when they are one year old, to train them to the walls or ſtakes from the firſt.

When they are to be trained in the nurſery, the cuttings ſhould be ſet in rows two feet aſunder, and the plants ſhould be a foot aſunder in the rows. Thus you will have room to manage the plants, dig between the rows in winter, and keep the ground clean from weeds by hoeing in the ſummer.

When they are planted out for good, either for eſpaliers or againſt walls, they ſhould be at about ten feet diſtance: And when they are raiſed with a deſign to bear large quantities of fruit for ſale, they are uſually ſet in rows ten or twelve feet aſunder, and four feet diſtant in the rows.

When they are raiſed for theſe purpoſes, it would be proper to train the plants to a clear ſtem a foot high; and then head it to cauſe it to throw out lateral ſhoots, that it may be the better able to produce a larger quantity of fruit. When the plants are deſigned for eſpaliers, they muſt be fanned from the firſt; all croſs ſhoots muſt be taken away, and the others muſt be laid in an horizontal poſition.

When they are deſigned for walls, they muſt be fanned in the ſame manner; and their after-pruning is trifling. The branches are to be laid at a proper diſtance from each other; the young ſhoots are to be ſhortened to about three or four eyes above the laſt year's wood; but the ſnags muſt by no means be taken off, for theſe produce no inconſiderable ſhare of the fruit.

Of raiſing Currants early.

In order to have Currants early, a few plants ſhould be ſet in a warm, ſandy border, againſt a ſouth eaſt wall; and fruit from ſuch trees will come in a fortnight before the others. In order to have Late Currants, they muſt be planted againſt a north wall: Theſe will be a fortnight or three weeks longer than the others before they are ripe; but they are generally ſour and ill-taſted, and fit for little but tarts, jellies, and the like.

Currants will hang on the trees for many months: So that if they are ſecured from the birds either by mats or nets, the trees will exhibit a fair ſhew of fruit even in October or November.

Titles.

1. The Common Currant-tree is titled, *Ribes inerme, racemis glabris pendulis, floribus planiuſculis.* In the *Hort. Cliff.* it is termed, *Ribes inerme, floribus planiuſculis, racemis pendulis.* John Bauhine calls it, *Ribes vulgare acidum*; Caſpar Bauhine, *Groſſularia vulgaris rubra*; Parkinſon, *Ribes fructu rubro*; and Gerard, *Ribes vulgaris fructu rubro.* It grows naturally in woods, hedges, &c. in many parts of England.

2. The Sweet Mountain Currant is titled, *Ribes inerme, racemis erectis, bracteis flore longioribus.* In the *Hort. Cliff.* it is termed, *Ribes inerme, floribus planiuſculis, racemis erectis.* Caſpar Bauhine calls it, *Groſſularia vulgaris, fructu dulci*; and John Bauhine, *Ribes Alpinum dulce.* It grows naturally in England, Switzerland, &c.

3. The Black Currant is titled, *Ribes inerme, racemis piloſis, floribus oblongis.* In the *Hort. Cliff.* it is termed, *Ribes inerme, floribus oblongis.* Caſpar Bauhine calls it, *Groſſularia non ſpinoſa, fructu nigro*; and others, *Ribes vulgaris, fructu nigro.* It grows naturally in Switzerland, Sweden, and Penſylvania.

CHAP. VII.

PUNICA, The POMEGRANATE TREE.

Introductory remarks.

THERE are two ſpecies of this genus. One has been deſcribed among the Green-houſe plants; and the other, being a fine flowering tree, might have been expected to have been mentioned among the flowering ſhrubs: But as it is omitted there by miſtake; as it flowers ſeldom, and indifferently, unleſs trained to a warm wall; and as the Pomegranate is a noted fruit, and ſometimes ripens in England, there is no great impropriety in this ſpecies joining in the liſt of the fruit-trees of our Garden.

The Pomegranate, like moſt other fruit, conſiſts of many varieties, both with reſpect to the fruit and flowers. The principal of theſe are:

Sorts.

The Wild Pomegranate.
The Small-flowered Pomegranate.
The Striped-flowered Pomegranate.
The Sweet Pomegranate.
The Double-flowered Pomegranate.

Common Pomegranate-tree deſcribed.

Theſe are the principal varieties of the Common Pomegranate Tree, which riſes with a woody, branching ſtem, fifteen or ſixteen feet high. The young ſhoots are numerous from the bottom, long, ſlender, and are ſometimes covered with thorns. The leaves are ſpear-ſhaped, ſomewhat pointed, of a light-green colour, and grow oppoſite to each other on ſhort reddiſh footſtalks. The flowers come out from the extremities of the branches; they are large, of a beautiful red colour, appear in July, and continue in ſucceſſion until September; and the firſt-blown flowers are ſucceeded by large fair fruit, which frequently ripens in the autumn.

Culture.

This tree, with all its varieties, is eaſily raiſed by layers; which operation ſhould be performed on the young ſhoots in the autumn, as ſoon as they have ſhed their leaves. The uſual method of making a ſlit at ſome bud muſt be practiſed; the ſucceeding ſummer they muſt be duly watered in dry weather, and be kept clean from weeds; and by the autumn following they will have ſtruck root, and be fit to plant out. The ſtrongeſt may be removed directly to the places they are deſigned to occupy; but the others ſhould be ſet in rows in the nurſery, to remain there for a year or two to gain ſtrength. The ſeaſon for planting them out is any time in the autumn, winter, or ſpring; and when the fruit is deſired, they ſhould be ſet againſt the warmeſt walls, in a dry but rich ſoil, and a well-ſheltered place. Having planted them, a ſtrong ſtick ſhould be thruſt down by each of them, to which they ſhould be faſtened with ſome baſs ſtring; and in the ſpring they ſhould be headed down to within about a foot of the ground. If the ſummer proves dry, they muſt be frequently refreſhed with water; and as they form new ſhoots at that ſeaſon, theſe ſhould be nailed to the wall at about five or ſix inches diſtance from each other. Two lateral branches on each ſide the ſtem will be ſufficient for the firſt year; and if more than theſe are produced, the weakeſt and moſt ill-placed ſhould be rubbed off. In the autumn theſe branches ſhould be ſhortened, to multiply the number, in order to fill the wall; and as theſe are produced in the ſummer, all irregular ones, and ſuch as are too ſtrong, or over-weak, ſhould be taken out to keep the tree as even as may be on both ſides with middle-ſized branches: And this will ſoon bring it into a good bearing ſtate. As the over-ſtrong, or yet weak branches rarely produce fruit, but the middle-ſized, care muſt be taken to grant them due encouragement, that they may perform that office properly. This care conſiſts in taking out all luxuriant branches that may tend to rob them of their nouriſhment; alſo all weak, irregular branches that have the ſame tendency, though in a leſs degree; and in keeping them in good nailing, and proper order for the ſake of fruiting. If theſe things are duly obſerved, the flowers will ſhew themſelves at the extremities of the ſame year's ſhoots in July; and there will be a ſucceſſion of them until the autumn; and the firſt flowers are ſucceeded by the fruit, covered with a hard rind, roundiſh in ſhape, and as big as an Orange. Though they may be ſaid to ripen in England, the fruit is hardly ever well reliſhed here: So that whoever is deſirous of having them in ſtill greater perfection, ſhould train them in the like manner againſt a hot wall.

All the flowers, but particularly the Double ones, are of exquiſite beauty, and are therefore deſerving of a place in all ornamental Plantations. The cups of the Double flowers are the Baluſtrines of the ſhops; they are very bitter and aſtringent, and are employed in diarrhæas, dyſenteries, &c. and enter the officinal compoſition called *Pulvis e ſuccino compoſitus*.

Titles.

This ſpecies is titled, *Punica foliis lanceolatis, caule arboreo.* Cammerarius calls it, *Malus Punica*; and Caſpar Bauhine, *Malus Punica ſylveſtris*; alſo, *Malus Punica ſativa*; alſo, *Baluſtria flore pleno majore & minore.* It grows naturally in Italy, Spain, Portugal, and Africa.

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CHAP. VIII.

FICUS CARICA, The FIG-TREE.

Introductory Remarks.

FIGS, like Apples, Pears, Cherries, and other choice fruit, differ in ſorts, though conſiſting only of one ſpecies, and like thoſe delightful fruits regale us with different reliſhes in their numerous varieties: But as they are not ſo generally uſeful, nor yet ſo univerſally liked, the care to obtain more and new kinds from ſeeds has been proportionally neglected; ſo that we have only about thirty ſorts of eatable Figs, ſome of which are either indifferent, or the trees do not bear well in this climate: We may therefore reckon the uſeful valuable ſorts cultivated in our Engliſh

Gardens, to conſiſt only of about twenty, commonly known by the names of,

Sorts.

1. The Common Fig.
2. Cheſnut Fig.
3. Small White Fig.
4. Large White Fig.
5. Great Blue Fig.
6. Little Blue Fig.
7. Purple or Genoa Fig.
8. Black Genoa Fig.
9. Black Iſchia Fig.
10. Green Iſchia Fig.
11. Yellow Iſchia Fig.
12. Brown Iſchia Fig.
13. Verniſingue Fig.
14. Minion Fig.
15. Little Green Fig.
16. Malta Fig.
17. Round Naples Fig.
18. Long Naples Fig.
19. Hanover Fig.
20. Gentile Fig.

Deſcription of the Common, 1. The Common Fig is a large, well-known fruit, well taſted, and of a purpliſh blue colour when ripe. The tree is extremely hardy, and will bear in almoſt any ſoil or ſituation, without any pruning or Gardener's care. I have known it to produce plenty of good fruit in old neglected gardens, where the nettles and docks have ſurrounded the tree ſo cloſely, and in ſuch a luxuriant ſtate, as to make it troubleſome to come at the fruit. This ſort I mention firſt in the liſt, not becauſe it ripens early, but becauſe it is moſt generally known, is the moſt hardy, and is beſt cultivated by thoſe who are fond of this fruit, and are deſirous of beſtowing little trouble in the management of the trees.

Cheſnut, 2. Cheſnut Fig is a very large round Fig, of a fine cheſnut colour when ripe. The pulp is of a purple colour, ſoft, rich, and ſweet; and in ſome ſituations it ſhews itſelf ripe in July, or early in Auguſt.

Small White, 3. Small White Fig. This is a ſmall roundiſh fruit, of a yellowiſh-white colour when ripe. The pulp is white, and very ſweet; and this Fig in ſome ſituations ripens as early as the former.

Large White, 4. Large White Fig is a large oblong Fig, poſſeſſed of a white thin ſkin, and a ſhort footſtalk. The pulp is white, but often more or leſs tinged with purple; it is very ſweet and rich; and ripens well about the ſame time with the former, in any tolerable ſituation.

Great Blue, 5. Great Blue Fig is a fruit rather above the middle ſize, poſſeſſed of a very thin ſkin, a ſhort footſtalk, and is of a fine blue colour when ripe. The pulp is ſoft, luſcious, and of a fine red colour; and the tree being hardy, is as deſerving of cultivation as any we have.

Little Blue, 6. Little Blue Fig is rather below the middle ſize, has a ſhort footſtalk, a thin blue ſkin, a well-reliſhed pulp, and is of a red colour when ripe. This tree bears well in almoſt any ſituation, and is worth cultivating by thoſe who would give themſelves little trouble about them.

Purple Genoa, 7. Purple Genoa Fig is a large long Fig, of a dark purple colour when ripe. The pulp is extremely ſweet and delicious; and this is one of the beſt Figs we have in England.

Black Genoa, 8. Black Genoa Fig is a large Fig, ſhaped like a Pear, and of a black colour when ripe. The pulp is of a bright red colour, very ſweet, and well-reliſhed; and the tree being hardy, is as much cultivated as any of the ſorts we have.

Black Iſchia, 9. Black Iſchia Fig is a ſhort middle-ſized Fig, nearly of a black colour when ripe. The pulp is ſoft, and of a bright-red colour; and the tree is a good bearer, but requires a wall, or ſome warm, well-ſheltered ſituation.

Green Iſchia, 10. Green Iſchia Fig. This is a large oblong Fig, having a green thin ſkin, which is ſtained to a reddiſh-brown colour when the pulp is ripe. The pulp is very ſoft, of a good reliſh, and of a purple colour. The true ſort will ſtain linen or paper almoſt as powerfully as the juice of Black Cherries.

Yellow Iſchia, 11. Yellow Iſchia Fig is a large pyramidical Fig, of a yellow colour when ripe. The pulp is purpliſh, ſoft, and luſcious; but the ſituation and ſeaſon muſt be favourable, to cauſe it to acquire its perfection of reliſh.

Brown Iſchia, 12. Brown Iſchia Fig is a ſmall pyramidical Fig, of a brown colour when ripe. The pulp is purpliſh, ſoft, and extremely rich and luſcious; and the tree is a good bearer; but unleſs the ſeaſon proves favourable, the fruit will be late before it is ripe, and will never acquire its full perfection.

Verniſingue, 13. Verniſingue Fig is a roundiſh Fig, above the middle ſize, and of a brown colour when ripe. The pulp is extremely rich and luſcious, and the tree is a pretty good bearer after mild winters; but in ſevere weather, the young ſhoots, being tender, are generally deſtroyed: This makes it neceſſary to plant this ſort againſt a wall, in ſome warm, well-ſheltered place, to be protected with mats in ſuch weather.

Minion, 14. Minion Fig is a ſmall brown Fig, of good reliſh to thoſe who are fond of this ſort of fruit. The tree is ſmall, very hardy, and a good bearer, and the fruit ripens in almoſt any ſoil or ſituation.

Little Green, 15. Little Green Fig is a ſmall Fig, having a green-coloured ſkin, but a red pulp. It is ranked among the beſt Figs, and the tree is a low grower, hardy, and a good bearer.

Malta, 16. Malta Fig is a ſmall brown-coloured Fig within and without; the pulp is ſoft, and extremely luſcious; and if left ungathered on the tree, alters ſpontaneouſly to a pleaſant ſweetmeat.

Round Naples, 17. Round Naples Fig is a nearly globular Fig, above the middle ſize, of a light-brown colour within and without, though the ſkin is ſometimes more or leſs marked with ſtripes of a dull white. The pulp is ſoft and luſcious, and the fruit is in good eſteem among thoſe who are fond of eating Figs.

Long Naples, 18. Long Naples Fig. This is a long Fig, having a longiſh footſtalk, and is of a dark-brown colour when full ripe. The pulp is reddiſh, and well-reliſhed; and the Fig-eaters hold this ſort in good requeſt.

Hanover, 19. Hanover Fig. This is often called the Madonna Fig. It is a large Fig, of a pyramidical form, and of a brown colour when ripe; the pulp alſo is brown; but being coarſe, and of little reliſh, this Fig is held cheap by thoſe who pretend to be judges of this fruit.

and Gentile Fig. 20. Gentile Fig is a middle-ſized Fig, almoſt globular, and of a yellow colour within and without. It is a good Fig when full ripe; but as it comes in late, it ſeldom acquires its true reliſh, unleſs the ſeaſon and ſituation be remarkably propitious.

Culture. All theſe ſorts are eaſily propagated by cuttings; but as they often throw out numbers of ſuckers from the roots, theſe are beſt for the purpoſe. They ſhould be taken off as low as poſſible in the autumn, and be planted in the nurſery in rows a foot aſunder, with an interval of two feet diſtance row from row. The uſual care of weeding between the rows in ſummer, and digging the ground in winter, muſt be obſerved until the plants are ſtrong enough to be ſet out, which will be ſooner or later according to their different training, or the purpoſes for which they are deſigned. If intended for ſtandards, they ſhould be trained to an upright ſhoot, and made to form a head of four, five, or more feet from the ground; and ſuch training will require three or four years to bring the plants into proper order. If they are deſigned for dwarfs, the ſtrongeſt may be taken away after they have grown one year in the nurſery; but the weakeſt ſhould remain longer to gain ſufficient ſtrength, before they are planted out for good.

Moſt of the ſorts of Fig-trees will bear moderately well in ſtandards, or on dwarfs, planted in the full ground, provided the ſoil be rich and dry, and the ſeaſon proves favourable: And all of them do extremely well againſt a wall with proper training and management, let the weather be almoſt what it will.

An eaſt or a weſt aſpect is better for them than a ſouth, when againſt a wall; becauſe the fruit being formed on the young ſhoots the preceding ſummer, if the place is too warm, it will be ſo forwarded by the intervals of warm weather in the early part of the ſpring, that it will for the moſt part drop off, by the return of froſts and chilling cold, before the ſetting-in of ſummer. So that from the warmeſt trees the leaſt fruit is for the moſt part produced.

The uſual method of planting muſt be obſerved, and they ſhould be ſet about ten or twelve feet diſtant from each other. The border ſhould be kept in culture and good manuring; and nothing ſhould be raiſed on it but the loweſt ſallad-herbs. The trees ſhould be trained to the wall, placing the natural ſhoots, as they are produced, eight or ten inches from each other. The young branches ſhould never be ſhortened, for theſe produce the fruit, uſually at the extremity: And as this is formed the ſucceeding ſummer, ſome care muſt be taken to preſerve it through the winter. This is done by nailing mats over the trees on the approach of froſt, and conſtantly taking them away on the return of mild weather. If this method is obſerved, a ſure and certain, and alſo an earlier crop of Figs may be obtained. But as it is attended with great trouble and conſtant vigilance, the beſt way will be to plant but a very few of the tendereſt ſorts againſt the wall, to be thus nurſed, leaving the others to take their chance, as dwarfs or ſtandards, in the open air.

There are many who chuſe to train them in an eſpalier; but as the fruit ripens no better than on dwarfs or ſtandards, and the expence of wood-work and trouble of training them thus is very great, I think it not worth while to train Figs in eſpaliers; but when they are denied the wall, to let them have full play in the open ground. And this I am the more inclined to recommend, as I have had great crops of Figs, even from thoſe which are adjudged the tendereſt ſorts, when growing ſingly in the different parts of my gardens and plantations. They have, indeed, been protected by neighbouring quarters of trees; and let this be your direction for planting Figs in the open ground: Set them in a good rich earth, (for it cannot be too fat for Figs) in ſome warm, well-ſheltered place; and for want of this, ſet them in a quarter by themſelves, that a reed hedge may be drawn round them, to protect them from cold all the winter; and if they have either of thoſe conveniencies, you will be pretty ſure of having Figs enough, without the charge of training them in eſpaliers or againſt walls.

Of pruning Fig-trees.

The pruning of theſe Fig-trees in the full ground is inconſiderable. It conſiſts only in taking out the weak, ill-ripened branches, to make room for the others; alſo all dead branches; and in cauſing a proper thinning, that the heads may not be over-crowded with branches in the ſummer, when they are loaded with leaves and fruit. And as the young branches of all Fig-trees are liable, more or leſs, to be deſtroyed in winter, this directs us to perform the office of pruning in the ſpring; for then we ſhall ſee what branches are killed, and be able to judge of our pruning accordingly. If the pruning is done in the autumn, ſeveral branches may perhaps be cut out which would have ſurvived the winter, and would have formed excellent bearing wood the ſucceeding ſummer; and ſuch branches may be left with a deſign to perfect the head of the tree, which being tenderer than what was expected, may be deſtroyed by the ſeverity of the winter: And thus, by pruning and hard weather, the tree may be robbed of its head and principal branches. Let, therefore, the froſts perform firſt their office of pruning; and if they have killed many branches, then nothing more is to be done than to take out the dead wood cloſe to the bottom; for the young ſhoots muſt not be ſhortened on any account, unleſs when wood is wanted to fill up the parts; becauſe theſe are the bearing-wood, and uſually carry the fruit near the extremity. Neither is there ſo much danger of their ſuffering from bleeding at that ſeaſon, as has been imagined; for the tree puts out late in the ſpring; and tho' the wounded parts exude moiſture, yet the ſap does not flow in ſuch plenty as to endanger the health of the trees, before the ſeaſon for pruning (which ſhould always be when there is little danger of ſuffering from froſts) is over.

Some of the Fig-trees have finely divided leaves, and look beautiful in the Wilderneſs quarters, among other deciduous trees. But as the Fig-tree has always been cultivated as a fruit-tree more than for ornamental plantations, I have not mentioned it among the plants of that character: So that the botanical title claiming this for its proper place is as follows:

Titles.

The Fig-tree is titled, *Ficus foliis palmatis.* Dodonæus calls it ſimply, *Ficus.* Caſpar Bauhine calls it, *Ficus communis*; alſo, *Ficus humilis*; and John Bauhine ſtiles it, *Capifricus.* It grows in the ſouth of Europe, and in Aſia.

A

COMPLETE BODY

OF

PLANTING and GARDENING.

BOOK VI.

PART I.

Of WALL FRUIT TREES.

CHAP. I.

VITIS VINIFERA, The VINE.

Introductory remarks.

THE almoſt numberleſs ſorts of Grapes found in our own, as well as in French, Italian, Spaniſh, and Portugueſe Gardens, are varieties only of this ſpecies. They have been obtained either from ſeeds ſown with care, and brought forward with good management, or they have ariſen accidentally from the caſual falling of ſeeds in their wild ſtate. Doubtleſs from both theſe very valuable ſorts have been obtained; and in the firſt ages of the world their uſes were well known. Ancient catalogues are full of the ſorts; and the different Wines they produced have their due praiſes now ſtanding in different works of the ingenious Authors who both cultivated and admired them.

The catalogues in our days are ſwelled to a great length; but it is not neceſſary to recount them, becauſe moſt of them are in a manner uſeleſs to us, as they will not ripen in our Gardens.

The principal ſorts which are truly valuable, and which will ripen well either againſt good aſpected walls in the open air or againſt hot-walls, are,

Principal ſorts.

1. The Early Sugar Grape.
2. The July Grape.
3. The White Sweet Water.
4. The Black Sweet Water.
5. The Early Muſcadine.
6. The Royal Muſcadine.
7. The Le Cour Grape.
8. The Violet Muſcadine.
9. The Black Muſcadine.
10. The Red Muſcadine.
11. The Malmſey Muſcadine.
12. The Red Chaſſelas.
13. The Black Chaſſelas.
14. The Red Hamburgh.
15. The Black Hamburgh.
16. The Lombardy.
17. The St. Peter's.
18. The Tokay.
19. The Currant Grape.
20. The Black Cluſter.
21. The Burgundy.
22. The Damaſk.
23. The Grey Malmſey.
24. The Red Malmſey.
25. The White Malmſey.
26. The White Frontinac.
27. The Blue Frontinac.
28. The Red Frontinac.
29. The Black Frontinac.
30. The Griſled Frontinac.

31. The White Muſcat of Alexandria.
32. The Red Muſcat of Alexandria.
33. The Partridge-Eye Grape.
34. The Brick Grape.
35. The Black Spaniſh, or Alicant.
36. The Claret.
37. The Raiſin.

I have in my collection upwards of twenty different ſorts beſides theſe already mentioned, which I have propagated for ſale in the courſe of my Charitable Operations; but as I have either found them of inferior value, or come-in ſo late in the ſeaſon as never to acquire any tolerable degree of goodneſs in our gardens, I have long ago baniſhed them from my catalogue, extirpated the plants, and have omitted the mentioning of them, as they would rather confound than aſſiſt a Gentleman in making ſuch a collection of theſe fruits as he could wiſh.

Thoſe already mentioned are ſorts enough for any purpoſe, and are truly valuable in themſelves. Even the lateſt of them, in very favourable ſeaſons, will ripen againſt ſome of our walls in the open air, and may be every year brought to perfection if placed in the border of the hot-wall.

But to proceed to their deſcription:

The Early Sugar, 1. The Early Sugar Grape is a middle-ſized, dark-coloured fruit; the juice is of a ſugary ſweetneſs, and the ſkin is tough; the berries are cloſely diſpoſed in ſmall bunches, and in ſome ſeaſons will be ripe by the beginning of Auguſt.

The July, 2. The July Grape. Of this ſpecies there are two ſorts, one with white, another with black berries; they are both of a ſugary ſweetneſs, grow looſe in the bunches, and ripen about the ſame time as the former. Theſe are inferior Grapes, and are valued chiefly on account of their early ripening. The above three ſorts are indiſcriminately called July Grapes.

The White Sweet Water, 3. The White Sweet Water is a large white berry, full of a ſweet but not vinous juice; the ſame bunch will contain berries of different ſizes, and the ſmalleſt are often the ſweeteſt. It ripens early, on which account it is chiefly prized.

The Black Sweet Water, 4. The Black Sweet Water. The berries of this ſort are black, much ſmaller than the former, and grow in ſhort, cloſe bunches; the juice is very rich and ſugary, the ſkin thin, and from its coming-in early, this may be reckoned a truly valuable Grape.

The Early Muſcadine, 5. The Early Muſcadine. The berries of this ſpecies are rather ſmall and round, grow pretty cloſe in the bunches, and are looſely diſpoſed in longiſh bunches; they are of a white colour, their juice is very ſweet, and they come into eating ſoon after the Sweet Water.

The Royal Muſcadine, 6. The Royal Muſcadine. This is an amber-coloured fruit; the berries are moderately large, and full of a rich and vinous juice; the bunches they compoſe are very large, and the ſtalks often divide into ſmaller branches, which will alſo be covered with fruit. It ripens well againſt our walls; on which account, as well as for its other good properties, it is highly eſteemed in this country.

Le Cour, 7. Le Cour Grape. This is an amber-coloured fruit, of a middling ſize; the berries are formed into largiſh bunches, are fleſhy, and have a muſky flavour. They ripen very well in our gardens; and are reckoned one of the beſt ſorts of Grapes we poſſeſs.

Violet Muſcadine, 8. Violet Muſcadine. The fruit of this ſpecies are large, and of a deep-bright violet colour; the berries are diſpoſed in long bunches, and have a moſt exalted muſk yreliſh. They ripen very well in good ſeaſons; and then it is that the fruit is deemed one of the beſt of Grapes.

Black Muſcadine, 9. Black Muſcadine. The berries of this ſort are middle-ſized, and of a fine black colour; they grow cloſe in the bunches, are of a ſweet and muſky flavour, and in good ſeaſons ripen well againſt our walls.

Red Muſcadine, 10. Red Muſcadine. The berries of this ſpecies are ſmall, and of a beautiful coral colour; they are of a firm ſubſtance, and their juice is of ſuch an agreeable ſweetneſs, that it is reckoned by many to be the beſt eating grape in the world. It will not ripen well, unleſs the ſeaſon proves highly propitious; ſo that whoever is deſirous of having it every year in perfection, ſhould grant it a place againſt the hot-wall.

Malmſey Muſcadine, 11. Malmſey Muſcadine has its advocates for being one of the beſt Grapes in the world; the juices are very rich, and highly perfumed, and juſtly entitle it to be ranked, at leaſt, among the beſt ſorts of the muſky kinds.

Red Chaſſelas, 12. Red Chaſſelas. The berries of this ſpecies are round, pretty large, and of a dark-red colour; the juice is ſweet, and it is generally reckoned a very good Grape; though it muſt have a propitious autumn to bring it to perfection againſt our common walls. This frequently goes for the Red Muſcadine.

Black Chaſſelas, 13. Black Chaſſelas. The berries of this ſort are not ſo large as the former, and they are not ſo cloſely diſpoſed in the bunches; their colour is black, their juices are very rich, and it is reckoned an admirable Grape, either for the deſſert, or for making of wine. This often is called the Black Muſcadine.

Red Hamburgh, 14. Red Hamburgh. The berries of this ſpecies are moderately large, rather oval, and of a reddiſh caſt. They compoſe heavy bunches, and their juice is rich, and in great eſteem. This ſort ripens very well againſt our common walls.

Black Hamburgh, 15. Black Hamburgh. The berries of this ſpecies are rather ſmaller than the former, and inclined to an oval figure; their colour is a fine black; they are very juicy, of a muſky flavour, ripen very well againſt our walls, and are in high eſteem.

Lombardy, 16. Lombardy. This is a very large fruit, of a pale-red colour; the juice is rich, and the berries compoſe ſuch heavy-ſhouldered cluſters, that, to have them in perfection, one bunch only ought to be left to a branch. It is no uncommon thing for a bunch of this ſort to weigh ſeven pounds; but it hardly ever ripens without artificial heat.

St. Peter's, 17. St. Peter's. This is a very large Grape, oval in figure, and of a green colour powdered with white; the juice is in very little eſteem, but the bunches are remarkably large, and being of ſo fine a black, they form a moſt beautiful and grand appearance; on which account it is chiefly propagated. It is a late grape, and rarely ripens with us, unleſs aſſiſted by an hot-wall; and to have the bunches as large as may be, one only ſhould be left on a branch. The leaves of this ſort are finely divided, not unlike thoſe of the Parſley-leaved Grape; but the ſegments are fewer and broader.

Tokay, 18. Tokay is another very large Grape, growing in ponderous bunches; the berries are of a flame colour, very juicy, and have a reliſh like Tokay wine. This muſt have a hot-wall to enſure its ripening.

Currant, 19. Currant Grape. This is a middle-ſized, roundiſh Grape, of a ſugary ſweetneſs; the berries grow cluſtered together in ſhort bunches, are black, and poſſeſſed of a blue powder when ripe; they ripen, if properly ſituated, nearly as ſoon as the July Grapes.

Black Cluſter,

20. Black Cluſter. The berries of this ſpecies are oval, of a fine black colour, and crowd one another in the bunches. Theſe are ſhort, and from the cloſe arrangement of the fruit will not be equally ripened. It is generally eſteemed one of the beſt ſort of Grapes, and ripens early in a good aſpect. This often goes by the name of the Burgundy.

Burgundy,

21. Burgundy. The berries of this ſpecies are of a paler colour than the former, and are not ſo cloſely arranged in the bunches. Their figure is oval, and they ripen from every part of the cluſter. It is a very good eating fruit, as well as admirable for making of wine, and is a ſort worth propagating againſt the wall as well as in the vineyard.

Damaſk,

22. Damaſk. Of this ſpecies there are three kinds, the Black, the Red, and the White. The berries are of an oval figure, and very large; they grow in long heavy bunches, and ripen late in the autumn. The three varieties are reckoned among the beſt kinds of Grapes, when the fruit is in perfection; but unleſs a favourable ſeaſon is propitious to them, it ſeldom happens againſt our common walls.

Grey Malmſey,

23. Grey Malmſey. The berries of this ſpecies are ſmall, and of a grey colour; they are diſpoſed in large bunches, and are extremely ſweet and high-flavoured; they ripen early againſt a good wall, and are ranked among the beſt kinds of Grapes.

Red Malmſey,

24. Red Malmſey. The berries of this ſpecies are rather larger than the former, and are of a red colour. They are poſſeſſed of a very rich and delicate juice; and the bunches they compoſe are pretty large, and, if ſituated againſt a good wall, will be ripe in September.

White Malmſey,

25. White Malmſey. The berries of this ſpecies are about the ſame ſize as the former, and the bunches they compoſe are very large. The juice is rich, and finely flavoured when the fruit is ripe; but as this will be late in the ſeaſon, it is ſeldom found good but in favourable years.

White Frontinac,

26. White Frontinac. The berries of this ſpecies are round, and of a moſt excellent flavour; they compoſe very large and cloſe bunches, and muſt be thinned ſoon after the bloſſoms are fallen, or they will inumbrate and croud one another, and thereby prevent their ripening. The ſmalleſt ſhould be taken out with ſharp-pointed ſciſſars to admit the air and ſun to the others, which in ſome ſeaſons, in ſome ſituations, will ripen, but in general will not come to any thing, unleſs they have the benefit of an hot-wall, and then they are moſt admirable.

Blue Frontinac,

27. Blue Frontinac has nearly the ſame properties as the former, except in the colour of the berries, which are of a fine blue when ripe, powdered with white duſt.

Red Frontinac,

28. Red Frontinac. The berries of this ſpecies are very large, round, of a red brick colour, and full of a vinous juice of the moſt exalted flavour. They are compoſed in long bunches, and rarely ripen here without the benefit of hot-walls.

Black Frontinac,

29. Black Frontinac. The berries of this ſpecies are moderately large, round, and are covered with a fine meal like the Black Plum; they grow looſely in ſhort bunches, and are replete with a moſt rich and vinous juice. They ripen early in October if well ſituated, which renders this ſort of greater value than either of the two preceding kinds.

Grizzled Frontinac,

30. Grizzled Frontinac. This ſpecies is the lateſt ripe of any of the Frontinacs, and is of higher perfume; ſome of the berries are pretty large, of a round ſhape; and their colour is yellow mixed with dark red and brown.

White Muſcat of Alexandria,

31. White Muſcat of Alexandria. This is an exceeding valuable Grape, but ripens ſo late in the year, that there will be but little chance of having it in any tolerable perfection unleſs its ſtation be againſt the hot-wall. The berries are white, oval, and grow looſely in long bunches.

Red Muſcat of Alexandria,

32. Red Muſcat of Alexandria. This ſpecies is of equal value with the former, and requires artificial heat to bring it with certainty to perfection. The berries are replete with a vinous juice of extraordinary richneſs; they are of a red colour, oval in figure, and hang looſely in long unſhouldered bunches.

Partridge Eye,

33. Partridge Eye Grape. This ſpecies is remarkable for its large bunches, they being found ſometimes near ſix pounds in weight. The berries are very large, round, and white, but the juice has no extraordinary flavour; one bunch alone ought to be left to a bearing branch; and even this muſt be thinned ſoon after the bloſſoms are fallen, otherwiſe a large ſhare of the berries will never ripen.

Brick,

34. Brick Grape. The berries of this ſpecies are of a longiſh ſhape, and a deep red colour; the ſkin is thin, and the juice is very ſweet.

The Black Spaniſh, or Alicant,

35. The Black Spaniſh, or Alicant. The berries of this ſpecies are large, flat at the top, placed thinly on the bunches, and are of a dark-brown colour when ripe. They compoſe long and heavy cluſters of good-flavoured Grapes in proper ſeaſons. The plant is a good bearer, and the leaves die to a red colour in the autumn.

The Claret,

36. The Claret is a well-known Grape; its colour is the ſame as claret, and the juice is reliſhed by few. In ſhort, it is a fruit rather adapted to wine than to be eaten as fruit, though a plant or two ought to be admitted where there are any pretenſions to a good collection of theſe fruit. The leaves die to a deep red in the autumn.

and Raiſin Grape deſcribed.

37. Raiſin. Of this ſpecies there are two kinds, the White and the Black. The berries are oval, fleſhy, very large, and are placed thinly in long bunches. The juice is very ſweet, and of a pleaſant taſte.

I have fixed theſe Grapes as they ſtand numbered in the catalogue of my plantation, rather than attempted to place them according to the due order of their ripening, which would be altogether impoſſible, the ripening of this fruit varying much according to the nature of the ſeaſons. And although I have mentioned the months in which ſome of theſe ripen, this muſt not be too ſtrictly relied on, and muſt be underſtood only to mean when a favourable ſeaſon happens: For there are ſome ſeaſons ſo unpropitious to theſe fruit, that hardly any of them ever ripen at all.

The July, the Sweet Water, the Currant, the Muſcadines, Black Cluſter, Burgundy, and Black Frontinac, are the forwardeſt, and ought always to be planted, if you would be pretty certain of the fruit.

The other Frontinacs, Muſcat of Alexandria, Hamburghs, Alicant, Claret, Raiſin, Brick Grape, &c. will ripen in favourable ſeaſons, if well ſituated againſt a good wall; but then theſe, except the Hamburghs, will be very late, and often ill-reliſhed: So that whoever is deſirous of theſe Grapes ſhould allot them a place againſt the hot-wall.

Nay, the Lombardy, the Tokay, and the St. Peter's Grape, ſwelling with ſuch heavy cluſters, hardly ever come to any thing without artificial heat; ſo that a perſon muſt make his collection of vines ſuitable to his convenience, and the advantage he has of bringing the fruit to perfection. A general collection is deſigned only for thoſe who poſſeſs extent of walling and ample fortunes; whilſt the early ſorts only ſhould be ſelected by thoſe who would with greater certainty indulge their palates every year with this fruit at a leſs expence.

Culture.

The propagation of all the ſorts of vines is very eaſy, and is performed by planting of the ſlips or cuttings, layering of the branches, or grafting; but the ſtrongeſt plants in the leaſt time are always to be obtained from layers. If you have that conveniency, lay down ſome of the under-branches of the laſt year's wood; peg them down to prevent their being removed by externals; cover them over with mould; and cut off the tops to within one or two eyes of the ground. Autumn is the beſt time for the work, though it may be done any time in the winter or ſpring. Such layers will be good plants by the autumn following, and may be either removed to the places where they are deſigned to grow, or they may be ſet in the nurſery-ground for a year, to become more compact and ſtrong, before they are ſet out for good.

They are alſo eaſily raiſed by cuttings. Theſe ſhould be the bottom parts of ſtrong, well-ripened ſhoots of the laſt year; and there is no neceſſity of having any of the former year's wood along with them. Every cutting ſhould conſiſt of three eyes or buds at leaſt, two of which ſhould be placed in the ground; the other ſhould be very little above it: They ſhould be ſet eight inches aſunder in rows at an interval of two feet, and the mould ſhould be well trampled down to the ſides. The beſt time for this work is the autumn, though it may be done with leſs ſucceſs in the winter or ſpring. If a very dry ſpring and ſummer ſhould enſue after their planting, they ſhould be watered twice a week, ſhould be kept conſtantly clean from weeds, and by the autumn following they will become good plants; and the ſtrongeſt may be then ſet out for good, while the weakeſt, being headed to within one good eye of the ground, ſhould remain in the nurſery another year; by which time they will be grown very ſtrong and good plants, and fit for any purpoſe.

They may alſo be encreaſed by grafting; but this is rarely performed, and is deſigned chiefly to bring forward any curious ſort of Grape, or to have a multiplicity of ſorts at the ſame time. It is performed by cleft-grafting the beginning of April. The cleft ſhould be made as low in the ſtock as poſſible, and ſhould be two or three inches long; the cyon ſhould be well fitted to the parts, then bound and clayed, and it will readily grow. The clay muſt be taken away, and the band looſened, when the graft has ſhot about a foot and an half in length; for by this it will be ſufficiently joined to the ſtock, will grow amazingly, and ſhould be faſtened as it advances, to prevent its being diſplaced by the winds. By the autumn it will have made a very ſtrong ſhoot, and the ſummer following may be brought to bear.

Thus eaſily are all the ſorts of Vines raiſed; ſo that I ſhall now proceed to give their after-management, from the time of their being firſt taken out of the nurſery until they bear fruit, or become old trees; and that the reader may apprehend theſe directions more readily, ſhall claſs them under three different heads: viz. their after-management when planted againſt, 1. Common Walls; 2. Hot-walls; and, 3. in Vineyards.

Of the after-management of Vines againſt common walls.

1. Vines againſt Common Walls. The beſt aſpect for theſe is the ſouth-eaſt, though they do exceeding well againſt the ſouth; and ſometimes, in favourable ſeaſons, the fruit ripens very well in a ſouth-weſt expoſure. The border ſhould be well dug, four feet wide at leaſt; and if it be naturally moiſt, clayey, or of a ſtrong nature, a proportional quantity of drift-ſand, coal-aſhes, lime-rubbiſh, &c. ſhould be brought. Vines like ſuch a ſort of compoſt; and if the ground is not naturally ſo, or made ſo by art, you may expect very little ſucceſs from this part of your fruit-plantation.

Having the border and walls in order, let the Vines be carefully taken out of the nurſery in autumn, and let them be headed to within two eyes of the ground. The roots will want no pruning, except ſhortening the ſtrong root as the fibres will allow it, as we may ſuppoſe the owner has juſt taken them out of his own nurſery: And indeed if they be brought from a diſtance, the pruning ought alſo to be the ſame; for though it is generally recommended to take away all broken, dried, and decayed fibres, yet thoſe of this plant are of ſuch a nature, that it is difficult to know which are ſo; and unleſs great caution is uſed, many fibres may be taken off which would have enſured growth to the plant.

Having your trees all in readineſs, proceed to the planting. Let holes be opened along the wall at the diſtance of eight feet from each other; the holes ſhould be deeper or ſhallower, according to the nature of the plants: If it be a long ſtraggling layer, having the fibres at the bottom, and will not admit of the root being ſhortened, the ground ſhould be proportionably raiſed, and then the holes may be made to a proper depth; which perhaps may be a foot, or a foot and an half. If the plants are in the ordinary way, nine inches will be a ſufficient depth for the holes; and for ſhort handſome compact plants, ſix inches depth will do. I am the more particular in theſe directions, becauſe the roots ought to be as near the ſurface of the earth as poſſible, in order to draw the purer and more refined juices for the better ripening of the branches and fruit.

Having thus made your holes,, with a plant lying by each of them for a direction as to the depth, proceed to the planting. In doing of this, ſpread the fibres equally every way; ſet the ſtems in an upright poſition ſix inches from the wall; ſpread the fibres equally all around; then put in the mould, ſhaking the root as it comes in, and dividing the fibres with your fingers to prevent their being matted together: Preſs the mould well to the ſides as you fill up the hole; raiſe the earth to within half an inch of the loweſt eye of the plant; and if there be a ſmall ridge ſtill higher carried all round, forming the figure of a ſmall baſon having the plant in the centre, it will ſhew neatneſs in the Gardener, and, if very dry weather ſhould happen, will be better for the plant. This being done, ſome lay a covering of ſoot or aſhes over the ſurface of the mould; but I could never find that a layer or covering of ſuch ingredients was of any ſervice to the plant at firſt; neither do the roots need any covering but that of the pure and well-prepared mould of the border.

If a very dry ſpring and ſummer after planting ſhould ſet in, it will be neceſſary to afford them a good watering at times. All weeds ſhould be plucked up as they ariſe; the ſhoots ſhould be faſtened to the wall, as they advance; and this is all the management they will require for the firſt year, or until they come to their pruning, the winter after they have been planted.

This pruning conſiſts of no more than ſhortening their heads to within two good buds of the bottom. They ſhould be taken off about an inch and an half above the bud; and the time for the work is, from the falling of the leaves in autumn, until a little before the ſap begins to flow in the ſpring.

Digging of the border is a neceſſary operation for the encouraging of the plant. In doing of this, do not dig ſo near it as to diſturb the root, but carefully looſen the mould above it, and draw freſh earth up to the ſtem, moulding it up as high as the top of the old wood. This will cauſe the buds to ſhoot out ſtrong in ſummer; and to encourage them in this, all weak ſhoots muſt be taken off as they are produced, leaving thoſe from the buds only to poſſeſs the tree. Such lateral ſhoots alſo as they ſhall produce muſt be rubbed off as they appear, for theſe will proportionally weaken the main ſhoots, which ought in every reſpect to be encouraged, that the lower eyes may be as bold as poſſible for the next year's progreſs: Faſtening them to the wall muſt be duly attended to as they advance in height, and the lower eyes or buds will receive ſtill additional ſtrength, by nipping off the ends of the main ſhoots in July; which circumſtance ought never to be omitted.

The winter following, in mild weather, they ſhould be cut down to three eyes: Theſe ſhould be faſtened horizontally to the wall, and that is all the trouble they will require this winter. Summer-weeding, and winter-digging of the border, muſt attend the Vines in their progreſs; neither muſt any large plants be ſet near them, for theſe will retard their growth, greatly weaken if not deſtroy the lower eyes, and cauſe the whole ſhoots to be ſpongy and ill-ripened.

The ſummer following, the plant muſt be poſſeſſed of ſuch ſhoots only as are produced from the eyes left on the laſt pruning; and even then, when two ſhoots grow from one eye, the weakeſt muſt be taken away. All others alſo muſt be rubbed off as they appear; they muſt be trained to the wall as they advance in height, and in July muſt have their ends pinched off as before, except ſuch as ſhew fruit; for theſe, in this young ſtate of the tree, ſhould be permitted to grow at leaſt a month longer before they are ſhortened.

A round of this work is to be every year repeated; and by a due obſervance of theſe eaſy rules, keeping the ground clean from weeds and large plants in ſummer, and digging the border in winter, your Vines will be hearty and ſtrong, and in good condition every year to produce you rich and heavy cluſters.

As your Vines get old, the practice may be a little varied: The young wood may be left four eyes long, and they ſhould be placed at ſuch a diſtance from each other, that there may be room enough to train their ſide-ſhoots as they are produced; on which account, if the tree has been ill-managed, and is poſſeſſed of too large a ſhare of theſe ſhoots, the weakeſt muſt be entirely taken away, leaving the others at about eighteen inches diſtance from each other. The bearing branches ſhould be ſhortened the middle or end of June to within three eyes above the fruit, whilſt the others are permitted to grow until the middle or end of July before they are ſhortened. The practice of the one will ſtrengthen the fruit, and bring it forward in the ripening; and the practice of the other will ſtrengthen the ſhoot, and cauſe the buds to be ſtrong for the ſucceeding year.

In clearing the tree of all weak and irregular ſhoots, which ought to be begun in May, and repeated at an interval of about three weeks all ſummer, care muſt be taken not to wound, or take off the leaves of the ſtanding branches; for ſuch practice (tho' too often practiſed) will be injurious both to the ſhoots and fruit. Theſe irregular ſhoots, as they appear, ſhould always be diſplaced by rubbing; and with regard to others that may require to be taken off at the winter-pruning, they ſhould be cut cloſe to the ſtem with the knife, not leaving a ſhort ſcrag, as is often practiſed; for ſuch will ſend forth weak branches, which, if not timely taken off, will crowd the tree, be injurious to the fruit, and greatly weaken thoſe that are deſigned for fruit-bearing the year after. When pruning is performed ſo late in the ſpring, that the juices flow, and the plant bleeds, as the Gardeners term it, the bleeding may be ſtopped by applying to the part ſome wood-aſhes, unſlaked lime, or dry ſoot. This very often ſtops it at firſt, but never fails effecting a cure, if repeatedly applied.

Soon after the bloſſoms of the Vine are fallen, and the fruit is well ſet, it ſhould be thinned where it ſhews itſelf in too great quantities. More than two bunches ought never to be permitted to grow on one branch; and of ſome of the largeſt ſorts, one bunch for a branch will be ſufficient. Carefully, therefore, look over your fruit at that time, and with a knife take away all the weakeſt bunches, leaving only one or two of the largeſt and fineſt bunches on each branch. Branches alſo at this time may be wholly taken away, with the bunches on them, if the tree is much crowded; and thus may the whole be kept free and open, which is the only way to have this fruit rightly flavoured, and in its true ſize and perfection.

This is the method of training Vines to the wall; and in the ſame manner alſo they may be trained to an eſpalier, if the ſoil be of a warm nature, and the ſituation well defended, otherwiſe it will not be worth while to make the trial. I have known them drawn along the border of the Kitchen Garden; and though in ſome ſeaſons the fruit has ripened very well, yet in general it will be late, bad-taſted, and ſeldom come to any-thing; ſo that it will not anſwer to purſue this practice, unleſs there is a ſcarcity of walling; and if ſo, the vines may be planted in eſpaliers, for the fruit to take their chance as it ſhall happen.

Nevertheleſs, if the Vines are planted againſt an eſpalier, good fruit may with greater certainty be procured, if the owner will be at the expence of a reed hedge to run along the back of it; for this will in ſome meaſure anſwer the end of a wall. This hedge need not be above four feet high, for that will be a defence high enough for the fruit; whilſt the ſtrong ſhoots which are deſigned to bear the year following may rear their heads above the hedge without danger of injury, and may be faſtened to a trelaſe, as they advance, at pleaſure. Hedges of theſe kinds need not be placed until the trees are four or five years old, and are got into a good bearing ſtate. The reeds ſhould be tied in the uſual manner, and a ſlip of deal ſhould run along the top to look handſome, and protect their ends. This method is frequently practiſed, and plenty of good fruit in no very favourable ſeaſons is thereby often obtained.

Of the after-management of Vines againſt hot walls.

Vines againſt hot walls muſt be planted and managed the ſame way as Vines againſt other walls, until they come into a bearing ſtate and good condition for forcing.

A proper border only is to be prepared for their reception at firſt, and then an interval of four years will elapſe before they call upon us to exert our ſuperior ſkill to cauſe their delicious fruit at unuſual ſeaſons to be brought to the table.

The walls ſhould be built on a dry ſoil; and for want of this, the border muſt be raiſed with proper earth two feet high; the common earth muſt be taken out a full ſpade's depth, and the bottom muſt be well rammed with any kind of dry rubbiſh, to prevent the roots from ſtriking into thoſe cold and unfavourable regions below. If the border is naturally dry, the earth may be taken out deeper, and the border raiſed proportionally leſs above the level of the ground; and even in this caſe it will be neceſſary to ſpread a layer or ſtratum of dry rubbiſh, of about a foot thickneſs, at the bottom, ramming it down very cloſe. As the roots will be thus confined from ſtriking downwards, a more than ordinary breadth for the border muſt be allowed, that there may be room enough for them to take a more favourable turn another way. Five feet, at leaſt, muſt be their breadth, and the depth of the brought-in ſoil muſt be two feet. A nine-inch wall ſhould be in front of the border, not only to keep it up, but to place whatever is neceſſary upon it; at the bottom of which proper holes or vacancies ſhould be left open to drain off the moiſture, which would otherwiſe be confined, and rot the tender fibres of the plants as they are produced.

Having thus finiſhed the wall, filled the bottom of the pit with ſtones, broken bricks, rubbiſh, &c. and ſo cloſely rammed them down that there may be no chance for the roots penetrating, the mould ſhould be brought in. This ſhould be a good, light, freſh earth, taken from a paſture ground with the ſward along with it the year before, the ſward having been frequently turned to rot the turf and incorporate the parts. It ſhould be ſpread regularly and uniformly over the whole, and laid ſo thick, that when ſettled it may form a bed or border of earth two feet deep.

This being done, the mould ſhould be left to ſettle about a week or ten days; and then the plants are to be ſet in the uſual manner againſt the back-wall, at the diſtance of ſix feet from each other. The planting may be performed any time in the autumn, winter, or ſpring; though the firſt ſeaſon is by far the beſt, if the walls, &c. are in readineſs. From the time of their being planted until they are got into a good bearing ſtate, their management muſt be the ſame as againſt common walls: This ſhould be four years; for though they may be brought to bear ſooner, yet the trees will be too tender, and the bunches will be ſo few as not to make it worth while to proceed to the operation of forcing. Having therefore the trees ſtrong and in good order, which we may ſuppoſe to be about the fourth year from the planting, about the middle of January let the fires be lighted, and the glaſſes put on: If this is done much earlier, the ſhoots will draw weak, long-ſhanked, and produce little fruit, as a due admiſſion of air cannot be granted them, if very bad weather ſhould happen in the ſpring; and if it be done much later, the time of the fruit being ripened will be protracted; it will come in later, nearer to that which is produced in the common way, and conſequently its value will be proportionally diminiſhed.

The fires ought to be made to afford a moderate heat only, and to heat the air only about eight or ten degrees above the point Temperate of the Botanical Thermometers. Neither need they be continued day and night, unleſs very cold weather ſets in: In ſuch weather they ought always to be kept up, that the air may be properly heated, and the plants may receive no check in their progreſs; but in mild ſeaſons, and when the ſun ſhines out, one fire only need be lighted in the evening; and if it is kept burning until about eleven o'clock at night, the wall will be ſufficiently heated, and the air brought into a due temperature, and continued ſo the enſuing day.

When the Vines begin to ſhoot, they muſt be regularly trained and faſtened to the trelaſe. They ſhould be ſo diſpoſed that they may have the full benefit of the ſun and air; all weak, irregular ſhoots ſhould be taken off; and in performing theſe operations, the greateſt caution muſt be uſed not to break the proper ſhoots; for the forcing makes them exceedingly brittle at this time, and cauſes them to ſnap, if they are in the leaſt roughly handled.

From time to time they ſhould be trained in this manner; and about the firſt week in May the fires ſhould be wholly diſcontinued.

By this time, as the days will be grown very long, and the ſun have great power, air proportionally in greater quantities muſt be given the plants, and they will alſo require to be oftener watered; for this is eſſentially neceſſary to the well-ripening of the fruit. As the days get ſtill longer, and the weather warmer, the glaſſes ſhould be wholly taken off in the day-time, and may be placed on again in evenings, or let alone, as you may think proper, unleſs you are apprehenſive of froſts, which often happen even at the end of May. If the glaſſes are laid on, the fruit will ripen earlier, as it will be protected from the dews, which will retard its growth. If the glaſſes are not laid on, the fruit will have the benefit of the dews, which will cauſe it to be better flavoured, though it be a little later before it becomes ripe.

As ſoon as the fruit is well ſet, thoſe ſorts which naturally produce very cloſe bunches, ſhould have the branches thinned with ſharp-pointed ſciſſars; the ſmalleſt ſhould be picked out with the points; and thus leaving the others properly thinned, they will ripen and come to perfection better. In doing this, do not handle the bunches, but only with very narrow-pointed ſciſſars pick out the ſmalleſt parts; for if they are any ways bruiſed, or diſpoſſeſſed of that fine mealy duſt which is peculiar to them in that early ſtate, they very ſeldom do well afterwards.

In the courſe of their progreſs, the glaſſes muſt always be put on in very wet weather; for that will backen the fruit, and deſtroy its true flavour.

Early in June you will find your grapes large and about their full growth, and in a very little time after you will perceive them to begin to ripen. This is the time to guard them againſt the attacks of birds and inſects; the only way for which is to place nets and birdlime twigs for the one, and ſugared bottles, or vials half-filled with ſugar and water, for the other.

Thus will your fruit uninterruptedly advance to perfection, and will ſhew itſelf at the table many weeks before that which is produced in the ordinary courſe of Nature againſt common walls.

The ſorts proper for forcing are all the early kinds; ſuch as the Early Sugar, the White, the Black Sweet Water, the Muſcadines, &c. for theſe coming much earlier than any of the other ſorts, will be deemed the greater curioſity, and have an higher tendency to excite converſation, which is often what the Gardener chiefly aims at in the execution of his art. The really curious may have grapes brought to perfection this way, which would otherwiſe not ripen in our climate; but then the time of their being brought to the table will be when there is a vaſt profuſion of the different, and for the moſt part better, ſorts from the common walls; which will in general cauſe them to be leſs eſteemed, and afford little pleaſure, except to thoſe few only who are really curious in taſting the different ſorts of fruit.

Vines will not bear forcing every year; for which reaſon a double quantity of walling ſhould be built and planted, that each part may take its turn alternately, and come in forcing every other year. In thoſe years the Vines are forced, the chief care ſhould be to encourage the fruit, without paying much regard to the ſhoots for the ſupply of young wood; and in thoſe years the Vines are at reſt, no regard ſhould be paid to the fruit; for the tree ought not to be burdened with a bunch, that the ſhoots may be proportionally ſtronger, and in better condition to ſupport the operation the ſucceeding year.

This is the principal way of forcing Vines in order to bring their fruit as early to perfection as this climate will admit of. Other inferior ways are practiſed; ſuch as planting them againſt a wall in which there are flues, but no glaſſes in the front. Though they ſtand wholly expoſed to any weather as it ſhall happen, yet by lighting the fires at the uſual time, and thus keeping the wall warm, the ſhoots will be made early, and the fruit will be ripened ſome weeks before that on common walls; and having all the benefit of the dews and full air, the fruit will be better-flavoured than that which has been violently forced.

By planting them againſt the wall of an houſe that is the back of a chimney where a fire is uſually kept burning, the ſhoots and fruit will be proportionally forced and ripened long before thoſe in the ordinary way.

By planting them againſt the ſide of the ſtove, and by introducing the branches through ſmall holes, and faſtening them to proper ſupports near the glaſſes, the fruit may be brought as early to perfection as any other way; though it is ſeldom well-flavoured, and the quantity to be obtained muſt be very inconſiderable.

When this method is practiſed, the branches, as ſoon as they have performed their office, ſhould be cut off, and freſh ones at the uſual time introduced for the purpoſe; for they ſeldom do well after they have been once thus forced: On which account, when this method is practiſed, great attention ſhould be paid to a proper ſupply of freſh ſhoots, of ſufficient length, to be introduced ſucceſsfully as the ſeaſon comes in.

Of the after-management of Vines and Vineyards.

The culture of Vineyards has been known in all ages of the world, and the liquor they produce is probably the firſt (except water) that was known to mankind.

The variety of Grapes to produce wine are infinite, and the ſoil and ſituation in which they are placed alſo give a different flavour to their produce.

Of old this was notoriouſly known, and the different ſorts of wine had their admirers. In this age, we can hardly be ſaid to fall ſhort of the Ancients in the number of ſorts; and I believe there are very few of them but have admirers enough.

In France, Italy, and other wine countries, the management of the Vineyards and their wines is a principal branch of trade. Whole farms conſiſt entirely of Vineyards; and it is from theſe countries that the different parts of the world are ſo amply ſupplied.

Vineyards have formerly been much planted in England; but the diſcontinuance, and now almoſt total diſuſe of them ſeems plainly to indicate that they did not anſwer the end; and that the wine they produced was not adequate in worth to the trouble and expence attending them.

Though in general this may be true, yet I have known good wine made of Grapes growing in England, and have drank our Burgundy no way inferior, as my taſte could find out, to that noted wine which we have conſtantly imported from that country.

Doubtleſs, therefore, there are ſome ſoils and ſituations that will ſuit Vines, and cauſe their fruit to ripen properly here; and when a perſon is poſſeſſed of ſuch a ſpot, then may he proceed to plant it as a Vineyard; otherwiſe he will find his labour and expence thrown away.

Signs of a proper place for a Vineyard.

The tokens or ſigns of a proper place for a Vineyard are, 1. The ſoil ſhould be naturally dry, loamy, light, and of a warm nature. 2. The bottom ſhould be either chalky, rocky, full of lime-ſtones, or gravel. 3. The ſituation ſhould be on the South-eaſt, or South ſide of an hill; though it will do very well if it be in a fruitful, dry, warm part of the plains that lie open to the Eaſt. It ſhould be well defended from the North-weſt and South-weſt winds by trees, and hills at a diſtance; and for want of thoſe, a double hedge ſhould be planted, running along the North, the Weſt, and ſloping off by the South-weſt; for this will break thoſe winds, prevent them from ruſhing down the hill among the Vines, and keep the place warm. If the ſituation and ſoil be of this nature, it fairly invites you to begin your plantation; though there are other ſoils which will do very well for a Vineyard, and in which Vines will grow, and bear plenty of fruit. They are found to grow very luxuriantly upon marly ground; and I have planted with ſucceſs a ſmall Vineyard in our Nurſery at Gumley. The part where the Vines were planted was the South ſide of a hill; the ſoil is an unfruitful white clay, and will afford good bricks; and notwithſtanding in winter it looks like a good red, loamy earth, and is very light and dry, yet in ſummer it becomes white, flaky, and ſhews itſelf a moſt unhappy ſoil for any plantation. The clay becomes denſer the deeper you go, and full of blue veins. Its natural produce was furze-buſhes, and it was a burrow for rabbits.

Here I planted a ſmall Vineyard of the Red Burgundy Vine. The Grapes ripened exceedingly well; the cluſters were rich and large, and would have afforded plenty of good wine, had they not always been ſtolen by the populace which came to ſee the plantations, and which has ſince occaſioned their being grubbed up.

Nor was this the only place I had, in which Grapes ripened without walls. I planted more than forty different ſorts in the valley below, where bricks had been formerly made, and all the Sweet Waters, the Muſcadines, and all the early ſorts ripened their fruit there extremely well; and though theſe were chiefly deſigned to produce cuttings for the propagation of the different ſorts, and conſequently had not the cloſe management of fruit-bearing plants, they bore amazingly, and ſhewed their heavy, well-ripened cluſters lying on the ground; from all which it may be inferred, that if a ſoil is naturally dry, of a warm nature, and has a good expoſure, it will afford you rational hopes of ſucceſs, and give you great encouragement to begin your Vineyard.

The firſt ſtep towards this is, to prepare the ground properly. This ſhould be done by trenching or double-digging of it; the ſward ſhould be worked to the bottom, the clods ſhould be well broken, and the fineſt parts ſhould be laid at the top. This work ſhould be performed in the autumn; and you may as ſoon as you pleaſe after that, proceed to plant your Vineyard.

Let holes be firſt opened for the plants in rows eight feet aſunder, and let there be an interval of four yards between each of the rows; let the rows run from South-eaſt to South-weſt; and as the holes are opened, let the plants be taken out of the Nurſery with care, and planted as ſoon as poſſible. In planting them, ſpread the fibres equally all around, preſs the mould well to the roots and the ſtem, and let the plant ſhew itſelf from thence with one good eye only, juſt above the ſurface of the ground.

Your Vineyard being thus planted, there will be a large interval of reſt before they call for your further diligence; and even then, during the firſt year, the trouble they will give you will be but ſmall. In the ſummer, as the ſhoots advance in height, they muſt at times be faſtened to ſtakes thruſt into the ground for that purpoſe; all weak and lateral ſhoots muſt be taken off; and the ground muſt be regularly freed from weeds as they ariſe.

Some recommend the planting of eſculents between the rows, and the continuing that practice annually until the Vines come into a bearing ſtate. But this is very wrong advice; the ground ought to lie fallow all the time, and at proper intervals be dug, ſtill the better to enrich its nature, that its force may be greater for the Vines when they come to bear: For although Vines will grow and bear fruit in a poor or hungry ſoil, yet they do abundantly better in earth of good heart, provided it be light and dry. This is confirmed to us by the practice of the planters of vineyards abroad, who once in ſeven or eight years manure their Vineyards with ſheep or cows dung. Not a vegetable therefore between the rows, from the firſt planting of the Vineyard, ought to be permitted to ſtand for any uſe; the weeds muſt be conſtantly cleared off as they ſhew themſelves; the ground muſt at leaſt once a year be dug between the rows; and if theſe rules be ſtrictly attended to, you will find a ſtrange difference in your Vines, with regard to their ſtrength of ſhooting, the largeneſs of the cluſters, and the exalted flavour of their juices.

The winter after planting, your ſets ſhould be headed to within two eyes of the ground. The autumn is the ſeaſon in which this work is generally practiſed; but if it be done in the ſpring, before they bleed, it will be better; for by that time the ſhoots will be better hardened, and, by being more compact and woody, will be leſs liable to ſuffer from the externals of wet and cold, than if they had been cut in the autumn, when they are for the moſt part very ſpongy and ill-ripened.

Let the winter-digging be performed juſt before the plants are cut down, otherwiſe there will be great danger, through the heedleſſneſs of labourers, of having many of the plants trampled on, and their eyes broken off. In digging the ground, diſturb the roots of the Vines as little as poſſible, draw the earth gently up to the ſtems, and having headed them to within two eyes of the ground, let a ſtake be thruſt down on each ſide of the plant, to which the ſhoots proceeding from each of the eyes may be faſtened the ſummer following.

This faſtening is to be performed at intervals as before, as the ſhoots advance in height; weak, irregular, and lateral ſhoots muſt be rubbed off as they ſhew themſelves; the ground muſt be kept clean from weeds; and this is all the trouble neceſſary to be given them for that ſummer.

The winter or ſpring following, the ground ſhould be dug again, and the Vines ſhould be pruned in order to forward their ſummer progreſs. This pruning ſhould conſiſt in ſhortening the ſhoots to within two eyes of the laſt year's wood, and then faſtening them nearly horizontally to ſtakes thruſt down for the purpoſe. As they grow in ſummer, the main ſhoots muſt be faſtened to the ſtakes, and all weak and irregular branches taken off as uſual.

The winter following, they muſt be pruned as before; but as it may be expected, that by this time they are in a condition for bearing, one or two of the uppermoſt branches of each plant may be ſhortened to within four eyes of the old wood, with a deſign to produce fruit the next ſummer; whilſt the others may be ſhortened to within two good eyes of the old wood, with a deſign not to bear fruit, but that they may ſhoot vigorouſly only the ſummer following. This being done, the ſtakes ſhould be placed, and the freſh branches tied to them as before; their poſition ſhould be nearly horizontal, that the fruit which they produce may be as near the ground as poſſible; for ſuch fruit will be always the largeſt and beſt ripened.

The ſummer following, as the ſhoots advance, they muſt be faſtened to the ſtakes as before, and all weak ſide-branches rubbed off as uſual. The ſtrong-ſhooting branches, which proceed from the two eyes with a deſign to bear fruit the year following, muſt be permitted to purſue their growth until the end of July; but thoſe branches which ſhew fruit, ſhould be nipped off as ſoon as they have got three eyes above the cluſters; and theſe ſhould be brought out as much as may be, that they may have the full benefit of the ſun and air.

The winter following the ſtrong ſhoots ſhould be ſhortened to within four eyes of the bottom, in order to bear fruit after that; whilſt the others ſhould be cut down to two eyes, to keep up the ſucceſſion in order: And in this manner you are to proceed with your Vineyard, which will grow better and better every year, and produce fruit, as it grows older, of a more exalted flavour, and ſuch as will produce finer wines.

When you find you have too many branches on a Vine, take out the weakeſt, and ſuch as ſhew any tendency to crowd each other, in the winter; and in the ſummer always diſplace the weak, irregular, and lateral ſhoots by rubbing them off. In ſhortening the branches for bearing wood, let it be done to four eyes only; for if more eyes are left on the branch, there will be more fruit produced; but then it will greatly weaken the plant, and cauſe great trouble and time to reſtore it to its good ſtate. When you ſhorten the other branches in order to produce fruit to ſucceed theſe, let it always be down to two good eyes; and to make the buds at the bottom ſtronger, let the tops be nipped off the end of July, leaving the ſhoots about five feet long. With regard to thoſe branches which ſhew fruit, their ends ſhould be nipped off the middle or end of June, and ſhould always be ſhortened to within three buds of the fruit.

Thus will your fruit advance regularly to perfection; though, in order to enſure it a better flavour, ſome cut the ſtalks of the bunches half through, ten days or a fortnight before they are gathered; while others, again, gather them, and hang them upon ſtrings in an airy place, that the cruder particles may evaporate before they are preſſed for wine.

In either practice, as the purer juices of the grape only are retained, a firmer and more excellent wine may be expected to be produced.

Vineyards may conſiſt of any ſorts of Vines which will ripen their fruit in this country, at the pleaſure of the owner; but of all the ſorts, the true Burgundy is the moſt proper. It is an hardy Vine, an excellent bearer, ripens its fruit extremely well, and the juice of it from our ſoils affords a wine little inferior to that from the hills of Burgundy.

Vineyards ſhould be manured every three years with cow or ſheep's dung. This ſhould be well-rotted, and ſpread thinly over the ſurface between the rows in winter, in order to be dug in when the winter digging is performed.

Titles.

The Vine is titled, *Vitis foliis lobatis ſinuatis nudis*. In the *Hort. Cliff.* it is termed, *Vitis foliis palmato-angulatis*. Caſpar Bauhine calls it, *Vitis vinifera*. It grows naturally in one part or other of the four quarters of the world.

CHAP. X.

AMYGDALUS PERSICA, The PEACH TREE.

Introductory Remarks.

IT is not certain in what part of the world the Peach-tree naturally grows; for though we have early accounts of its being brought from Perſia, it does not follow from thence that it is one of the natural products of that country.

It was a well-known fruit in Pliny's time, who tells us, that its culture was attempted in Egypt and other parts; but for what purpoſes it was propagated, is not altogether ſo clearly to be made out, as it was generally thought to be poiſonous, in thoſe early times. Columella affirms this; and that celebrated phyſician Galen believed them to be noxious, and of a poiſonous quality.

It is ſtrange that ſuch great men ſhould be ſo erroneous in their judgment, without being led into it by any application or experiment! for had they made any experiment of the virtues of this fruit, its ſalutary effects muſt have been apparent, and the notion of its noxious qualities ſoon diſſipated.

Certain it is, that we find Peaches to be not only harmleſs, but ſome of the moſt wholeſome and delightful fruit in the world.

They are ſo univerſally admired, that their culture is become general in France and ſeveral other parts of Europe: Their ſole management is a trade, and whole families are entirely ſupported by the ſale of them.

With us, though not ſo generally cultivated, they are equally eſteemed; we acknowledge their excellence, and reckon them among the moſt valuable acquiſitions of our Kitchen Garden.

This truly valuable ſpecies conſiſts of two notable varieties,

I. The Peach-tree, commonly ſo called.
II. The Nectrine.

And both theſe ſpeices afford numerous ſorts of different taſtes for regaling the palate.

I. Peaches. The principal ſorts of Peaches are,

Principal ſorts of Peaches.

1. White Nutmeg.
2. Red Nutmeg.
3. Ann.
4. Small Mignon.
5. Early Violet.
6. Early Purple.
7. Yellow Alberge.
8. White Magdalen.
9. Common Mignon.
10. Groſſe Mignon.
11. Montauban.
12. Early or Smith's Newington.
13. Red Magdalen.
14. Belle Chevreuſe.
15. Nobleſs.
16. Chancellor.
17. Italian.
18. Belle Garde.
19. Early Admirable.
20. Roſſanna.
21. Bourdine.
22. Dragon.
23. Liſle.
24. Royal George.
25. Portugal.
26. Nivette.
27. Rambouillet.
28. La Royale.

29. Old Newington.
30. Sion.
31. La Teton de Venus.
32. Late Purple.
33. Perſique.
34. Late Admirable.
35. Cambray.
36. Narbonne.
37. White Michaelmas.
38. Double Mountain Newington.
39. Catharine.
40. Willow-leaved Late Newington.
41. Monſtrous Pavie of Pomponne.
42. Bloody or Mulberry Peach.

The White Nutmeg, 1. White Nutmeg. I mention this becauſe it is found in moſt Catalogues; but it is almoſt baniſhed from our gardens. The tree ſhoots weakly, and is ſubject to gum; the fruit are very ſmall, and in general of ſo little flavour as to cauſe its culture to be neglected. It ripens about the white, middle of July.

Red Nutmeg, 2. Red Nutmeg. This is a truly valuable ſmall Peach, and comes in a little later than the former. The ſkin is a fine red next the ſun; the fleſh is white, very juicy, and of an agreeable flavour. The tree is a weak ſhooter; but in general it bears well.

Ann, 3. Ann. This, perhaps, is one of the beſt Early Peaches we have in England. The fruit is rather ſmall, and the ſkin is, for the moſt part, of a yellowiſh caſt, except that part facing the ſun, which is tinged with red. The pulp is of a whitiſh yellow, melting, and highly-flavoured. The tree ſhoots ſtrong, and, if well-managed, is a good bearer.

Small Mignon, 4. Small Mignon is a ſmall, round, melting Peach. The pulp is white, ſeparates from the ſtone, and is replete with a rich and vinous juice. It comes in early in Auguſt, and the tree is a good bearer.

Early Violet, 5. Early Violet is a middle-ſized rich fruit; the fleſh parts from the ſtone, and melts with a muſky richneſs.

Early Purple, 6. Early Purple. This is a larger fruit than the other; and comes in a week or ten days later. Its figure is round; its ſkin and fleſh next the ſtone red; and its juice vinous, and high-flavoured.

Yellow Alberge, 7. Yellow Alberge is a longiſh, middle-ſized fruit. The fleſh is yellow, and not very juicy. It ripens early in Auguſt, and has its admirers; though, in general, it is reckoned an indifferent fruit.

White Magdalen, 8. White Magdalen. This is a middle-ſized, round, whitiſh fruit. The fleſh is white, parts from the ſtone, which is very ſmall; and the juice, when well prepared by an advantageous ſituation and good weather, will be very rich; otherwiſe the fruit will be watery and inſipid. It ripens ſometimes as early as any of the ſorts, except the Nutmegs.

Common Mignon, 9. Common Mignon. This is a longiſh fruit, and moderately large. The ſkin is thin, reddiſh facing the ſun, and of a green colour next the wall; the pulp is melting, and the juice is very rich, but inferior to the Groſs Mignon.

Groſs Mignon, 10. Groſs Mignon. This is reckoned amongſt the richeſt Peaches we have in Nature. It is large, round, and the ſkin is ſprinkled with numerous red ſpots next the ſun; but on the oppoſite ſide it is of a yellowiſh-white colour. The fleſh is white next the ſkin; but red at the ſtone, which is very ſmall. The juice is very ſweet, quick, and challenges precedence with any of the ſorts. I have in my Collection two other ſorts of Mignon, called *Millet's Mignon*, and *Lord Falconbridge's Mignon*, which, though inferior to this, are truly valuable ſorts, and deſerve to be ranked among our choiceſt fruits.

Montauban, 11. Montauban. This is reckoned a very valuable Peach, and the tree is hardy, and a good bearer. It is a middle-ſized, roundiſh fruit. The ſkin is of a purpliſh-red colour next the ſun, but paler next the wall. The fleſh is white to the ſtone, ſeparates from it, and melts with a delicious juice. The tree is obſequious to any diſcipline, and is as deſerving of propagation as any ſort I know.

Early or Smith's Newington, 12. Early or Smith's Newington. This is a very common Peach, of a middling ſize, and is in general eſteem. The ſkin is of an elegant red colour next the ſun; the fleſh is white, but red at the ſtone, and is full of a ſweet, delicious juice.

Red Magdalen, 13. Red Magdalen. This is a fine, large, round, red fruit. The pulp is white, but red at the ſtone. The juice is ſo exquiſitely reliſhed, that this Peach contends for precedence with any of the ſorts.

Belle Chevreuſe, 14. Belle Chevreuſe. This is a fine, middle-ſized, red fruit, of an oblong figure. The pulp is white, but red at the ſtone. The juice is briſk, and of a delicious ſweetneſs.

Nobleſs, 15. Nobleſs. This is a very large, fine, red fruit. The pulp is melting, quits the ſtone, and is of excellent taſte. This tree is hardy, a good bearer, eaſy to be trained, and is as well worth propagating as any of the ſorts I know.

Chancellor, 16. Chancellor. This is a fine large fruit, rather long than round. The fleſh is white, but red at the ſtone, where it parts; and is of ſuch exquiſite reliſh as to entitle it to be ranked in the firſt claſs of melting Peaches.

Italian, 17. Italian. There are ſeveral ſorts of Peaches which go by this name. The true old Italian Peach is of middle ſize, and has a thin ſkin, which is of an elegant red next the ſun, but of a greeniſh-yellow next the wall. The pulp is white, but red at the ſtone, which it quits. The tree is a good bearer, and the fruit is reckoned among the beſt kinds of melters.

All theſe are of the earlieſt ſorts of Peaches, and if properly ſituated will be ripe in Auguſt: The rather later, or thoſe called September Peaches, are,

Belle Garde, 18. Belle Garde. This ripens early in September, and is reckoned an admirable Peach. It is large, round, and of a deep-purple colour next the ſun, but yellowiſh underneath. The pulp is melting, white, and quits the ſtone when it is red.

Admirable, 19. Admirable. This is a fine, large, round, red fruit next the ſun. The pulp is white, parts from the ſtone, and is full of a briſk, delicious juice. It ripens early in September, and is reckoned among the beſt ſorts of Peaches.

Roſſanna, 20. Roſſanna. This is a middle-ſized fruit, a little inclined to an oval figure; and is red next the ſun, but paler at the wall. The pulp is white, and parts from the ſtone; the juice, when well corrected, is vinous, and of a moſt exalted flavour; but otherwiſe almoſt taſteleſs and inſipid. I have had this tree bear plentifully for two or three years, and ſcarcely a Peach on it has been worth eating; whereas the year following it has diſcovered its original richneſs, and demonſtrated itſelf to be one of the beſt kinds of Peaches.

Bourdine, 21. Bourdine. This is a fine, large, round, red fruit next the ſun. The pulp is white, and parts from the ſtone, where it is red. The juice is vinous and exhilarating, and may contend for its being the beſt Peach we have in England.

Dragon, 22. Dragon. This is a large, rich melter, of rather longiſh ſhape. The ſkin next the ſun is uſually ſtreaked with red; though this is not permanent, for in ſome years all that part will be of a red colour; the other ſide is of a whitiſh-yellow. The pulp is of a faint yellow, and ſeparates from the ſtone.

Liſle, 23. Liſle. This is a middle-ſized, violet-coloured, roundiſh Peach. The pulp is yellow, and adheres to the ſtone, which is of a fine red. It is a good melter, though not ſo juicy as many of the other ſorts.

Royal George, 24. Royal George. This is a middle-ſized, round fruit, of a red colour next the ſtone, but white and ſpeckled on the oppoſite ſide. The pulp is very rich, white next the ſkin, but very red at the ſtone, and melts with a delicious juice.

Theſe laſt ſeven ſorts ripen, nearly together, pretty early in September.

Portugal, 25. Portugal. This is a very large Peach, uſually ſpotted, and next the ſun of an elegant red. The fleſh is firm, white, vinous, and adheres to the ſtone, which is red, and very ſmall. It ripens ſoon after the others, and is generally reckoned a good Peach.

Nivette, 26. Nivette. This is a very large, longiſh fruit, of a purpliſh-red next the ſun, and of a yellowiſh-green on the oppoſite ſide. It is a melter of the firſt claſs; the juice is exhilarating; the pulp is white, and ſeparates from the ſtone, where it is of a bright-red.

Rambouillet, 27. Rambouillet. This is a middle-ſized, longiſh fruit, divided by a large furrow in the middle. The ſkin is very red next the ſun, but yellow on the oppoſite ſide. The pulp is full of a briſk, vinous juice; it is of a bright-yellow colour, but of a deep-red at the ſtone, from which it parts.

La Royale, 28. La Royale. This is a very large, round Peach, of a purpliſh-red next the ſun, but yellowiſh on the oppoſite ſide. The pulp in general is white, but of a deep-red at the ſtone, where it parts; the juice is delicious, and the fruit is reckoned among the beſt kinds of melting Peaches.

Old Newington, 29. Old Newington. This Peach is truly Britiſh, and is ſaid by many to be the beſt Peach we have in England. It is a large, fine fruit, of a delicate red next the ſun, but whitiſh on the oppoſite ſide. The fleſh is melting, but not ſoft, of a fine yellow next the ſkin, and of a deep-red at the ſtone, to which it cloſely adheres. The juice is of a delicious ſweetneſs, and the Peach is univerſally admired.

Sion, 30. Sion is a large, fair, round fruit, reddiſh next the ſun, and whitiſh on the oppoſite ſide. The pulp is of a pale-yellow next the ſkin, but red at the ſtone. The juice is of a good flavour, and many rank it among the beſt Peaches.

La Teton de Venus, 31. La Teton de Venus. This is deeply furrowed in the middle, and the parts on each ſide are plump, and rounded in form of a woman's breaſt: hence the name *Teton de Venus*, or the Breaſt of Venus, was given to this ſort. It is a melter of good reſpect. The part next the ſun is of a faint-red, and the oppoſite of a greeniſh-yellow. The pulp is white next the ſkin, and red at the ſtone, from which it parts. The juice is very ſweet, and of a pleaſant flavour.

Late Purple, 32. Late Purple. This is a fine, large, round, melting Peach, of a dark-red or purple colour. The pulp is yellow next the ſkin, but red at the ſtone, from which it parts. The juice is very ſweet, and high-flavoured.

Theſe laſt eight ſorts ripen by the end of September.

Perſique, 33. Perſique. This is a fine, large, oblong, roundiſh fruit, with a little nipple at top. The part facing the ſun is red, and the oppoſite ſide of a pale-green. The pulp is of a pale-yellow next the ſkin, but red at the ſtone, from which it ſeparates; it is melting, and the juice is of a delicious ſweetneſs. This is often called The Late Admirable.

Late Admirable, 34. Late Admirable is a very large, fair, round fruit of exquiſite flavour. The ſide next the ſun is of a purpliſh-red, and the other ſide of a greeniſh-yellow; the ſtone is very ſmall, and of a purple colour; the pulp contiguous to it is of the ſame tinge, but that next the ſkin is yellow. It is both melting and firm, and conſtitutes one of the richeſt late Peaches we have in our gardens.

Cambray, 35. Cambray. This is a middle-ſized, longiſh, pale-coloured fruit. The pulp is yellow, melting, and has little redneſs at the ſtone. The juice fills the mouth, and in favourable ſeaſons is very good.

Narbonne, 36. Narbonne is a very large Peach, of a greeniſh colour. The pulp is poſſeſſed of very little juice, which occaſions its being eſteemed more for the variety it makes in the Fruit-Garden than its real goodneſs.

White Michaelmas, 37. White Michaelmas. This is a very large, round, white Peach. The fleſh is firm, and adheres to the ſtone; the juice is exceeding rich, and it is one of the moſt valuable of the late Peaches.

Double Mountain Newington, 38. Double Mountain Newington. This is a very large, fair fruit, divided by a deep furrow in the middle. The pulp is firm, melting, yellow next the ſkin, and of a red-purple colour at the ſtone, to which it adheres. The juice is briſk, ſweet, and well-flavoured.

Catharine, 39. Catharine. This is another of the moſt valuable ſorts of late Peaches. It is large, and of a roundiſh ſhape; it faces the ſun with a beautiful red, and its colour is white on the oppoſite ſide. The pulp is firm, and adheres to the ſtone; its colour next the ſkin is white, but at the ſtone is a deep red. The juice is ſweet, and of a pleaſant flavour. This ſort ſhould be laid by in a dry, airy place a few days before it is eat, and the flavour will be heightened.

Willow-leaved Late Newington, 40. Willow-leaved Late Newington. The word Willow-leaved is generally applied to this ſort by the Gardeners, though it conveys no idea of a tree with a different ſort of leaf than the others, for they are all of that figure; and we might with as good reaſon call the other ſort the Willow-leaved Early Newington; for they are both alike. And here I cannot but take notice of the method of ſome authors in deſcribing theſe fruit, who bring in the leaves as giving teſtimony of the ſorts. *The leaves of this are ſmooth*, ſay they. *The leaves of this are ſmooth*,

ſmooth, &c. &c. Now a man's ſaying the leaves of a Peach-tree are ſmooth, is only expoſing himſelf; for they are all ſmooth; at leaſt, I am not aſhamed to own that I never yet met with a rough-leaved Peach. Again, they ſay, *This hath ſerrated leaves.—This hath ſerrated leaves*, &c. This is an equally commendable propriety with the former; for it is the ſpecific diſtinction of theſe trees, that the leaves of all are ſerrated. The leaves therefore are all of the ſame form; they are all ſmooth, all ſerrated, and there is no ſuch thing as knowing the ſorts from any ſuch deſcription. A better gueſs may be made from the nature of the trees, ſome ſhooting much ſtronger than others; but then this varies in different ſituations; ſo that there is no knowing with certainty how to judge of the ſorts until the true ſigns ſhew themſelves in the fruit.

The Willow-leaved Late Newington Peach, then, is very much like the Old Newington, but is of a darker-red, and ſeldom ripens before the end of October. The juice is exceeding rich, even in that late ſeaſon; and if the fruit ripened earlier, it is thought it would excel that of the Common Old Newington in goodneſs.

Monſtrous Pavie of Pom ponne deſcribed.

41. Monſtrous Pavie of Pomponne. This is the largeſt and moſt beautiful Peach in the world. It is round, and ſo large as to meaſure a foot or more in circumference. One half of it facing the ſun is of an elegant red, and the ſide next the wall is a pale-fleſh colour. The pulp is melting, and of a white colour next the ſkin, but of a deep-red colour at the ſtone, to which it adheres. The juice is of inferior flavour to moſt of the other ſorts; nevertheleſs, no Garden ought to be without ſome of this kind, were it on no other account than the noble and beautiful figure it makes in the deſert, eſpecially at a ſeaſon when moſt of the other Peaches are gone; for it ſeldom ripens before the end of October.

Property.

It makes one of the beſt pickles in the world. As ſuch, it may be eaten at all times of the year; and for ſuch purpoſes alone, were it otherwiſe uſeleſs, this fruit would be well worth propagating.

Bloody Peach deſcribed.

42. Bloody Peach. This is propagated more for the ſingular property it poſſeſſes, than the real value of the fruit. The whole pulp from the ſkin to the ſtone is of a blood-red colour. It is a middle-ſized fruit, and ſeldom ripens well, unleſs the ſituation be advantageous, and the ſeaſon very favourable.

General obſervations on the above deſcribed Peaches.

Theſe are the principal Peaches which compoſed no inconſiderable ſhare of my extenſive plantation. There are other names in the Catalogues of the Nurſerymen, which at firſt made me eager to procure them, expecting to meet with ſome valuable ſorts; but I always found them to belong to one or other of the above-mentioned kinds. For inſtance, in one and the ſame Catalogue, there have been inſerted *Teton de Venus* and the *Double Swalch* Peach. I accordingly have purchaſed them, expecting two different ſorts, but I always found them to be the ſame; and I have been aſſiduous in procuring the *Double Swalch* from different parts; but when they came to bear, the fruit has always ſhewed itſelf to be *Teton de Venus*; ſo that if there is a valuable fruit of that name, as I have been told there is, it is what I could never meet with. Certain however it is, that one Peach in different parts often goes under different names. And this is not to be wondered at, people being fond of giving names to every thing about them which they like. A valuable Peach-tree ſtands in the Garden, for which the owner knows no name: He immediately gives it one, and proclaims its excellence. It is then firſt propagated in the neighbourhood by the name he has impoſed on it; this name ſoon ſpreads abroad, and it is ſought after in different parts as a valuable acquiſition to a Collection: It is received by that name, booked accordingly, and propagated as a diſtinct ſort, when perhaps it is no other than the moſt common kind they have in the Nurſery. Thus the numbers of ſorts in Catalogues are too often encreaſed, while the real kinds in the Nurſery remain ſtill the ſame.

I believe all the above enumerated kinds to be diſtinct; though I muſt confeſs, that many of them approach ſo near to one another, eſpecially the Melters, that it is extremely difficult with preciſion to declare the difference. Indeed, it is amazing to think how very much the ſame fruit will vary from itſelf, through an inclement ſeaſon or a bad ſituation; for ſometimes their delicious richneſs will be entirely loſt, and a watery inſipid juice only afforded. This ſhould be a caution to every one not to be too haſty in condemning a fruit, but wait with patience until, by a propitious ſeaſon, it can preſent to you its true qualities.

The ſame cauſes alſo will accelerate or retard the ripening of the fruit ſome weeks; and in ſome very bad ſeaſons many of the late ſorts will not ripen at all. For theſe reaſons I will not pretend to ſay I have placed the above ſorts in their exact order of ſucceſſion in ripening; neither can I affirm that they will be ripe at the time I have marked them; but they will be nearly ſo; and in good ſituations and favourable ſeaſons, you may be pretty certain of being plentifully ſupplied with thoſe Peaches, in the different ſorts, from the beginning of Auguſt until November.

Where there is plenty of walling, and the ſituation is ſuitable, every ſort of them ought to be planted; for though ſome of them are of inferior goodneſs to the others, yet they will afford the greater variety to pleaſe the different palates that may partake of them; for ſo different are the taſtes or reliſhes of mankind with reſpect to fruit as well as the ordinary proviſions of life, that the richeſt Peach in the world meets with diſdain from ſome, while the meaneſt Peach againſt the wall has its advocates for being one of the moſt valuable ſorts.

Thoſe who have not walling enough to admit of a general collection ſhould contract their views, and ſelect as many of the beſt ſorts as will ſuit their purpoſe, according to their characters in the liſt.

It is a general opinion, that a double quantity of the Groſs Mignon ought to be planted to any other. I readily agree to it; for it is one of the beſt Peaches in the world, and ought to be diſtinguiſhed with ſuch kind of reſpect. The Ann ought by no means to be admitted for an Early ſort, and room ſhould never be denied the Early Violet. To ſucceed theſe, there ſhould be the White and Red Magdalens, Montaubans, Belle Chevreuſe, Smith's Newington, Chancellor and Italian. To theſe ſhould be joined the Belle Garde, Admirable, Bourdine, Royal George, and Nivette; then ſhould follow the Old Newington, the White Michaelmas, the Catharine, the Willow-leaved Late Newington, and the Monſtrous Pavie of Pomponne. If a perſon has ſtill leſs walling, he muſt contract his views accordingly, and ſelect a ſufficient a ſufficient quantity out of this Liſt; and if a perſon has only room for four trees, let them be the Groſs Mignon, the Bourdine, the Nivette, and the Old Newington.

Thus having informed my Reader how to make a proper choice of Peaches for his Garden, I proceed next to that other celebrated diviſion of this ſpecies, called,

II. NECTARINES.

Differ-ence, &c. between Peaches and Nectarines.

Nectarines differ from Peaches in that their fleſh is firmer, and their ſkin ſmooth, and altogether diſpoſſeſſed of that cottony matter which is peculiar to the other, and which renders them woolly, and guards the pulp from our careſſes till it be taken off.

Other introductory Remarks.

The numerous varieties which compoſe both theſe ſorts were originally obtained from ſeeds; and by the ſame means they may be ſtill multiplied, like other fruit, with proper diligence and attention.

Peaches were known in the very early times; but we have no certain account, how long thoſe ſorts of them called Nectarines have been in the cultivated gardens.

They ſeem to have been unknown to the ancient Greeks and Romans; for I know of no word in the Greek language which ſignifies a Nectarine; neither is there any in the Latin tongue, except ſuch as Caſpar Bauhine and other Botaniſts have coined to ſerve their purpoſes.

The Peach and the Nectarine have been looked upon by old Botaniſts as diſtinct ſpecies, and have titles given them accordingly in their works. From the late improvements in the ſcience of Botany, they are found to belong only to one ſpecies, and one common title is ſufficiently expreſſive of them both.

As they are found to be varieties of one ſpecies only, and there are ſo many ſorts belonging to each of them, which have all been obtained from one common original, it would be a pleaſing ſatisfaction to many to know which that was, the Peach or the Nectarine.

Enquiry whether Peaches proceed from Nectarines or not.

The antiquity of the Peach would with good reaſon induce many to believe, that That was the firſt ſort; and that the Nectarine was obtained in later times.

I am rather inclined, however, to think, that they were both known to Antiquity, and that the words μηλον περσικον, which we tranſlate Peach, comprehended them both, as one common title at preſent includes them both, and that the Nectarine is the original fruit.

And this I am induced to believe, from the late recent inſtances we have had of Nectarines growing on Peach-trees in common with them on the ſame bough.

I muſt own I never ſaw an inſtance of this myſelf; but I received the following account of it from my late worthy friend PETER COLLINSON, Eſq; F. R. S. who was an eye-witneſs of the fact.

"This ſummer, ſays he, I ſaw a ripe Nec-
" tarine growing on the Peach-tree, attended
" with many Peaches on the ſame twig. Such
" a wonderful phœnomenon I have heard of be-
" fore, but now I have ſeen it, and deſire your
" thoughts upon it."

This inſtance plainly indicates, that they are not two diſtinct ſpecies, but varieties only; and ſeems plainly to demonſtrate, that the Nectarine is the original fruit, and that from Nectarines all the ſorts of Peaches, which are more numerous than them, have been obtained.

Nature ſports wonderfully in her vegetable productions; and if you aſſiſt her with ſtudied attention, ſhe will repay your diligence with numerous pleaſing ſorts. Theſe your watchful care muſt conſtantly attend; and theſe pleaſing varieties muſt have ſuitable treatment, or they will more or leſs diſcover a tendency to forſake you in their pleaſing forms, and their original nature will, at times, more and more ſhew itſelf, until it has taken its rightful poſſeſſion of the whole plant.

This is moſt notoriouſly ſeen from the Eſculents in our Kitchen Garden, and the Prize Flowers in our ſheds.

How many luſcious vegetables do we receive from the former, and what diligence and perſeverance in art muſt be uſed to keep the ſorts from degenerating, and returning to the original common kinds from which they firſt ſprung! In like manner, how are our other ſenſes regaled with the delightful colours of the different flowers in our ſheds and borders; and what great care and art is to be uſed to continue them in their perfection of beauty! Take one of our beſt Carnations, for inſtance a ſeedling, glowing in all the beauty of diverſified colours; neglect its culture but a little, and you will ſoon find the original dull red to ſhew itſelf; nay, with all the art that can be uſed to continue its beauty, the natural colour will ſometimes ſhew itſelf among the beautiful ſtripes. This is known to every Floriſt who is attentive to flowers, and who views with regret the ſame ſtalk producing flowers in their perfection of ſtripes; flowers with one part only variegated, the original colour being burſt forth in the other; whilſt the flowers contiguous to theſe laſt ſhall poſſeſs only the original red colour. Theſe changes are not ſo incident to fruit; yet all fruit are more or leſs liable to them, as plainly appears from this inſtance of the Nectarine on the Peach twig. The original juices, the blood of the Nectarine if I may be allowed the expreſſion, lay ſecreted in the veins of the Peach-tree, from which That at firſt ſprung, and, finding a ſuitable opportunity, burſt forth in the pleaſing form of the mother fruit: And I make no doubt but that if the culture of a Peach, whoſe veſſels were ſo conſtituted, was neglected, and it were permitted to grow in its wild ſtate; inſtead of one, more Nectarines would ſoon ſhew themſelves, and ſtill more, until the accidental variety of Peaches was baniſhed, and the tree produced nothing but Nectarines.

Nectarines, therefore, were known as early, or earlier than Peaches; and the words μηλον περσικον, which we only call the Peach, comprehended both ſorts, with all the varieties that attend them.

Nectarines known earlier than Peaches.

The word Nectarine has been given to the ſorts "with firm fleſh and ſmooth ſkins", to expreſs their eminence, and the heightened flavour of their delicious juices; being ſo called from that celebrated liquor *Nectar*, "the drink of the Gods."

This original Peach, then, which we uſually call Nectarine, admits but of few varieties in proportion to the other tribe, which goes under the appellation of Peaches. They are in eating, however, in one or other of them, nearly as long a time; and the principal ſorts in our gardens are,

1. Fairchild Early Nectarine.
2. Early York Nectarine.

Principal ſorts of Nectarines.

3. Violet Nectarine.
4. Elrouge.
5. Red Roman Nectarine.
6. Newington Nectarine.
7. Scarlet Nectarine.
8. Italian Nectarine.
9. Tawney Nectarine.
10. St. Omer's Nectarine.
11. Genoa Nectarine.
12. Murry Nectarine.
13. Old Black Newington Nectarine.
14. Golden Nectarine.
15. Temple's Nectarine.
16. Virmaſh, or Peterborough Nectarine.

Fairchild's Early,

1. Fairchild's Early Nectarine. This is a ſmall round fruit, of a bright red colour next the ſun, and yellow on the oppoſite ſide: It is not very juicy, but has nevertheleſs a pleaſant taſte, and is valuable for being ripe by the middle of Auguſt.

Early York,

2. Early York. This is a larger fruit than the former, and ripens ſoon after it. It is round in figure, firm in fleſh, and has a pleaſant juice.

Violet,

3. Violet. This is a middle-ſized fruit, of a fine purple colour next the ſun, but of a yellowiſh green with a reddiſh tinct on the oppoſite ſide. The ſtone is ſmall, the pulp contiguous to it is exceeding red, and the juice is vinous and very rich. It ripens the latter end of Auguſt.

Elrouge,

4. Elrouge is a middle-ſized fruit, of a longiſh ſhape. Its colour is purple next the ſun, but yellow on the oppoſite ſide. The pulp is melting, very juicy, and of a rich vinous flavour. This fruit, when ripe, becomes ſhrivelled; it is then in perfection of eating, which is generally about the end of Auguſt.

Red Roman,

5. Red Roman. This is by many ſaid to be the beſt Nectarine we have in England. It is very large, and of a round figure. It is often red all over, but the part next the ſun is of a deeper dye; there it is red even to a degree of blackneſs, whilſt a faint yellow colour uſually occupies the other ſide. The ſubſtance is firm, and replete with a rich juice. Its general colour is yellow, but very red at the ſtone, to which it ſticks cloſe. It becomes ſhrivelled when full ripe, which ſometimes happens pretty early in September.

Newington,

6. Newington Nectarine. This is another ſort that contends with the Red Roman for precedence. It is large, of a bright red colour next the ſun, and a fine yellow on the oppoſite ſide. The pulp ſticks to the ſtone, where it is of a deep red; the other part is yellow, and the juice is exquiſite. It ripens in September.

Scarlet,

7. Scarlet. This is a beautiful middle-ſized fruit, of a bright ſcarlet colour next the ſun, but paler on the oppoſite ſide. The pulp is very good, and will be in eating in September.

Italian,

8. Italian. This is a beautiful large fruit, of a deep red next the ſun, and a greeniſh yellow next the wall. The pulp is firm, highly flavoured, and adheres to the ſtone, which is very red. It ripens in September.

Tawney,

9. Tawney. This is a roundiſh fruit, of a dull red colour facing the ſun, and of a duſky yellow next the wall. The pulp is poſſeſſed of a pleaſant juice, and cloſely adheres to the ſtone.

St. Omer's

10. St. Omer's. This is a middle-ſized roundiſh fruit, of a greeniſh colour next the wall. The pulp is juicy and good.

Genoa,

11. Genoa. This is a moderately large fruit, of a red colour next the ſun, and a greeniſh yellow next the wall. The pulp is agreeably flavoured, and adheres to the ſtone, which is red.

Murry,

12. Murry. This is a middle-ſized roundiſh fruit, of a dirty red colour facing the ſun, and of a yellowiſh green on the oppoſite ſide. The pulp adheres to the ſtone, and is tolerably firm, and well reliſhed.

Old Black Newington,

13. Old Black Newington Nectarine. This is a large round fruit, of a blackiſh red colour next the ſun, and often red next the wall. The ſtone and the pulp that ſurrounds it are of a deep red, or purple colour. This Nectarine is of a firm ſubſtance; the juice is delicious; and it is no ways inferior to the former Newington Nectarine, except that it ripens later in the year.

Golden,

14. Golden Nectarine is a middle-ſized round fruit, facing the ſun with a faint red, and is of a golden yellow on the oppoſite ſide. The pulp has a fine flavour, is very yellow, and adheres to the ſtone with a ſmall degree of redneſs. It ripens the end of September.

Temple's,

15. Temple's Nectarine is a middle-ſized longiſh fruit, of a pale red next the ſun, and a greeniſh yellow next the wall. The pulp is white to the ſtone, and ſeparates from it; it is melting, and is liked by ſome more than any of the ſorts. This fruit is generally ripe about the middle of September.

and Virmaſh, or Peterborough Nectarine deſcribed.

16. Virmaſh, or Peterborough Nectarine. This is a middle-ſized, round, green fruit, and is the lateſt ripe of any of the ſorts. The part facing the ſun is of the deepeſt green colour, the oppoſite ſide being paler. The pulp is firm, and the juice is well-flavoured when well ripened, which will be by the middle or end of October.

Theſe are the principal ſorts of Peaches and Nectarines: Proceed we next to their culture.

Culture.

One common method in raiſing them is to be uſed for all; and that is, by budding them either upon Peach, Almond, Apricot, or Plum-ſtalks.

In France they bud upon all theſe ſtocks; but thoſe that are moſt generally uſed for the purpoſe are the Almond and the Plum. The Almond which they prefer before others is the Sweet Almond, and the Plum-ſtock on which they ſucceed beſt is the Early Damaſcene.

We can bud Peaches and Nectarines upon Peach-ſtocks, Almonds, Apricots, all the ſorts of Plums, and even the Sloe-buſh. On every one of theſe they will readily grow; but there is but one of them on which they live long. Bud them upon the Peach-ſtock raiſed from the ſtone, and they will ſhoot fair at firſt, and become promiſing trees; but in a little time you will find them gum, and ſoon go off. On the Almond or Apricot-ſtems raiſed from ſtones, their duration will be longer; but the ſame diſorder (gum) which proves pernicious to Peach-trees, will be pretty ſure of carrying them off before they have performed half their office, or, in their pride of beauty in the revolving ſeaſons, have poured into your baſkets their delicious bounties. Bud them upon the Sloe-buſh, and they will readily take; but on this they will not live; neither will their ſtanding be of any great duration on the variety of Plum-ſtocks that may be procured for the purpoſe.

They are budded, however, upon Plum-ſtocks for general uſe; ſo that it concerns us to enquire into the ſorts, and in what manner they are properly to be raiſed.

Conſult Books of Gardening, and they will tell you, that Peaches are budded upon the White Pear and Muſcle Plum; and in order to have a ſufficient number of ſtocks, they adviſe the ſaving a proper number of ſtones for the purpoſe.

They were lucky in hitting upon the Muſcle Plum, for that is the true ſtock for the Peach; but they are altogether unhappy and erroneous in the manner they direct them to be raiſed.

Sow the ſeeds of either Muſcle or White Pear Plums, and hardly any of thoſe Plums from ſuch ſeeds can be obtained.

I raiſed a large quantity of the Muſcle kind from ſtones, with a view to bud Apricots, Plums, &c. upon. A part of thoſe I planted out to ſee what fruit they would bear; and the Plums they produced were almoſt all black ſorts, except one; ſome were round, others oblong, ſome deeply furrowed, ſome large, ſome ſmall, and all of them ſo ſour, as hardly to be eaten even by the ſchool-boys: And with regard to the wood, though ſome of them were ſtrong ſhooters, yet the generality of them were weak, full of ſharp ſpurs, and more adapted to hedging-work than the reception of the bud of ſo delicate a tree as the Peach.

The White Pear Plum varies as much by ſeed; and if it did not, it would not ſuit to bud Peaches upon, there being none of them that will live on this ſtock, except three or four of the very hardieſt kinds: So that, although they were right in the choice of the Muſcle Plum, they were equally wrong in mentioning of this; and in both caſes ALL have proclaimed their ignorance and inexperience in the whole matter. I ſay ALL; for this being firſt broached by one, others have copied it; and there is hardly a Book of Gardening that I have met with, which does not recommend the practice. Thus errors are retailed, as it were, and the deception becomes general. We ſee how eaſily the multitude are deceived.

Having remarked thus far, I proceed to ſet them right, and point out the true manner of raiſing Muſcle Plum ſtocks to bud Peaches upon.

Method of raiſing Muſcle Plum Stocks to bud Peaches upon.

And for this, as they are to be ſtocks of the real Muſcle Plum, and theſe ſtocks are not to be raiſed from ſeeds, Reaſon tells us they muſt be obtained from layers or ſuckers. The trouble attending the former would be very great, and the eaſe of procuring them from the latter makes the attempt needleſs. The Muſcle Plum tree naturally throws out plenty of ſuckers; but as theſe are often too large for our purpoſe in the Orchard or Fruit Garden, the beſt way is to ſearch for them in borders planted with Peach-trees, where you may be pretty certain of finding plenty, if the culture of the border has been neglected: And about London, where Peach-trees are well raiſed, there are people employed, who make it their buſineſs at the proper time of the year to gather Muſcle Plum ſtocks from ſuch places, and who ſell them at a certain price per hundred.

The beſt time for planting them is the end of October, or the beginning of November; and a few days before you ſet about procuring your ſtocks, let the ground be in readineſs for their reception. This ground ſhould be freſh, or in good heart; and the neceſſary preparation of it is by double-digging it, clearing it from all old roots, large ſtones, breaking the clods, and laying the ſurface ſmooth and even.

Having thus prepared the ground, and procured the ſtocks, prune them properly for planting. Let all knots of old wood, which you will often find at the roots, be entirely cut off, and ſhorten them to about a foot or fifteen inches long; let all ſide-branches be cut off, leaving only one upright, and reject all that are thicker than a gooſe's quill.

Thus every thing being in readineſs, proceed to the plants. Mark out rows by lines two feet aſunder, and in theſe rows ſet your ſtocks at a foot diſtance from each other; trample the mould well to the roots; then level the ſurface of the earth between the rows with your ſpade, and leave them until the ſpring following.

In the ſpring you will find numbers of weeds to ariſe. Hoe theſe carefully up, keep the ground conſtantly clean, and your ſtocks will make good ſhoots, and many of them be in proper order to receive the bud by the end of Auguſt; which is the beſt time for budding of Peaches.

Theſe you may bud if you pleaſe, and by the year following they will be formed into Peach-trees, and may be taken away to make room for others. But as by this time the ſtocks in general will not be in a condition to receive the buds, we will ſuppoſe them to remain untouched, to be budded all together, in order to produce a general crop of Peach trees at one and the ſame time.

In the autumn let the ground between the rows be well dug; and in doing of this take care not to wound the ſides of the ſtocks. In the ſpring go over the whole quarter, and with your knife ſhorten the tops ſome inches. This will cauſe them to ſhoot ſtronger; and the ſap riſing more freely in the ſummer, the bark will more readily ſeparate from the ſtem at the time of budding. Such ſtocks alſo as are grown large muſt be cut off cloſe to the ground; and thoſe that appear ſtunted, and have not ſhot freely the former ſummer, ſhould ſuffer the ſame fate. All theſe will puſh up ſtrong from the root, and muſt be each trained to one ſtem; and they will not only be in good order to receive the bud with the others, but will commence ſuch ſtocks as the buds will with moſt certainty take to. For although ſtocks of old wood that are firm, and not too large, are very ſuitable to the buds, yet I always like to bud Peach-trees on the young ſtrong ſhoots which have ariſen from the bottom of the ſtock the preceding ſpring, and are ſtill ſhooting in their ſummer's growth.

Having all your ſtocks in proper order for working, let that buſineſs be performed any time from the twentieth to the laſt day in Auguſt; for that is by far the beſt interval of time in which ſucceſs may be depended upon. If they are budded much earlier they will readily grow, but then they will too frequently ſhoot out the ſame ſummer; and this ſhoot being unripened and tender at the end of autumn, will be pretty ſure of being deſtroyed by the firſt froſt that comes. If it be performed later than the beginning of September, the ſap will flow with leſs activity; and conſequently there will be a leſs degree of certainty of the buds joining to the ſtock, which is always effected by the motion of the ſap.

Directions for budding Peaches upon Muſcle Plum Stocks.

Having thus fixed upon the time, proceed we now to the main buſineſs of budding. And for this, if the quarter conſiſts only of a few ſtocks for private uſe, one perſon is enough for the performance; but if there be large quarters of theſe trees to be raiſed for ſale, as is the buſineſs of nurſery-men, &c. then there ought to be three experienced perſons employed, whoſe attention ſhould be diverted by no other buſineſs until this is over. The firſt of theſe three is to get the cuttings; the ſecond is to bud the ſtocks as the cuttings are brought; and the third is to tie up the bark to the buds with baſs ſtrings. Thus the work will go on uninterruptedly, and order be the better preſerved throughout the whole.

The perſon who gets the cuttings muſt number every ſort as he gets them, and enter them in the waſte book; and when he has got a ſufficient quantity for the inoculator to go on, he is to ſet him to work, ordering how many rows of each ſort are to be budded; which alſo muſt be numbered, and an account of them entered in the Gardening-Book. This will afterwards be a never-failing guide to you to the ſorts; and which you cannot be certain of, if you truſt to number-ſticks only; which are often broken down and miſplaced by the careleſſneſs of workmen, &c. By ſuch time as the inoculator has worked up his cuttings, we may ſuppoſe the procurer is advanced with a freſh ſet, all properly marked, and which muſt be booked as they are worked into the ſtocks, as before: And in this expeditious manner the work muſt be carried on until all is finiſhed. By ſuch quick diſpatch the chance of ſucceſs will be much greater; the cuttings being taken from the trees, and the buds directly put into the ſtocks before there is time for them to be withered; which could not be ſo, if one perſon was to perform the three offices himſelf, as is generally the caſe. As ſoon as the cuttings are got, the ends ſhould be ſhortened, and the leaves ſhould be always taken off a little above the buds; for if theſe are left on, they will ſoon draw out the moiſture from the cutting, and ſpoil it. If the cuttings are brought from a conſiderable diſtance, it would be highly proper to wrap them in moiſt moſs, and when you arrive with them, to place them upright in veſſels that have half an inch depth of water, but no more, at the bottom, in order to keep them cool until the buds are ſtripped off.

The cuttings muſt be taken from trees that are perfectly healthy, and good bearers—the oppoſite properties to gummy, diſeaſed, and over-luxuriant trees; for the young trees that are produced from them will always, in a greater or leſs degree, inherit the perfections or defects of their parents.

The cuttings ſhould not be too ſtrong or too weak. Buds from the weakeſt cuttings will grow; but then they always ſhoot weak, puling, grow ſlowly for years, and the trees ſoon go off. Buds from ſtrong, luxuriant ſhoots will all along make a proportional rapid progreſs, but then they will be ſtubborn to your diſcipline; you can with great difficulty keep them in due order; and it is very rare that ſuch trees ever become good bearers.

The buds from the bottom, and the other extremity of the ſhoot, are to be avoided, and a few of the moſt compact buds at the middle of each ſhoot ſelected for the purpoſe. The ingenious artificer is to hold the cutting in his left hand, with the thickeſt end from him; then he is to direct his knife almoſt as high as the next bud to that he intends to take; and with one ſlaſh he cuts off the bud ſo deep, that about half the thickneſs of the wood of the cutting comes along with it. He then with his thumb rubs out the wood, being careful at the ſame time not to wound the bark; and if the eye is preſerved, it is a good bud for his purpoſe; if not, and a little hole appears in the bud, he ſhould throw it away, and proceed to another. Having ſucceeded better in this, he ſhould place the back part of it between the lips, and having cut the bark acroſs the ſtock, he ſhould cut the bark upright about the ſame length as the bud; and this ſhould be done on a ſmooth part of the ſtock, two inches above the ground, and on the ſide oppoſite to the ſun. After that he ſhould with the flat haft of his knife ſeparate the bark from the ſtock on both ſides, and then let in the bud, which he ſhould preſs down to the bottom of the ſlit; then cut off the upper part of the bud's bark exactly in the ſame manner and in the ſame place as the croſs-cut was made; and this will wholly let the bud, with the bark that belongs to it, into its proper ſocket. This being done, he ſhould proceed in like manner to perform on the next ſtock; whilſt the third man is to follow him cloſe up with his baſs matting, binding the bark of the ſtock pretty cloſe to that of the bud on both ſides, leaving only the bud itſelf uncovered.

In this manner he is to proceed until all is finiſhed; obſerving always to be very punctual in numbering and booking the ſorts as they are worked, and alſo to preſerve the book, as an unerring guide to the reſpective kinds of this valuable fruit.

If the above diſpatch in the performance of this work has been obſerved, very few of the buds will fail. You will find them to continue their wonted greenneſs, and appear as healthy as if they had never been removed from their former tree, and will ſeem to wiſh impatiently to be freed from the bandage that ſurrounds them. And this muſt be complied with; otherwiſe the bark of the ſtock will ſwell above the bandage, and the young bud will be cramped for room in its new habitation. The conſequence of this will be, though it may not kill the bud, it will be ill-joined to the ſtock, and will ſhoot weak the ſummer after; and the effects of this check can hardly ever after be removed from the tree.

Untie the baſs-ſtrings, therefore, from all the ſtocks, three weeks after they have been budded, or at furtheſt do not defer it longer than the laſt week in September. Thus the buds will have freedom in their new abode, and being united to, will enjoy the ſame privileges with, the other parts of the ſtock, and will be preparing to make a vigorous ſhoot the ſummer following.

In November dig the ground between the rows, being careful not to cover up any of the buds with the mould; and this is all the trouble that need be granted them during the winter.

In the ſpring, juſt before they begin to ſhoot, cut off the ſtocks aſlant, juſt above the reſpective buds, and head all ſtocks on which the buds may have failed to within an inch of the ground, in order to force out a good, ſtrong, freſh ſhoot, for a renewal of the operation the Auguſt following; and this is all that is neceſſary to be done to them in the early ſpring.

As the ſpring advances, you will find your buds puſh forth bold and ſtrong; you will find alſo many buds of the Plum come forth along with it; Theſe muſt be carefully rubbed off as often as they ſhew themſelves, that all the powers of the ſtock may be collected for the due vigour of the Peach ſhoot.

Rubbing, therefore, the Plum-buds off all ſummer, as often as you ſee them appear, muſt be obſerved; the ground muſt be conſtantly kept clean from weeds; and thus your Peach-ſhoots, meeting with no impediment, will uninterruptedly continue their progreſs to perfection, and by the autumn your plantation of Peach-trees be formed; and then, or ſome time in the winter,

ter, muſt be removed to the places of their final deſtination; for they will be worth little, if they are continued in the nurſery another year.

In Auguſt, the remaining ſtocks which miſſed taking the buds the year before, muſt be budded into the young wood which ſprung from the part where it had been headed down to in the ſpring; at the ſame time alſo ſome buds of the tendereſt ſorts of Peaches ſhould be inſerted in the young ſhoots of ſome Peaches ſet apart for the purpoſe.

It is pretended, that ſome ſorts are too delicate and tender for a plum-ſtock, and that therefore it is neceſſary to bud them on ſtocks of their own kind, not raiſed from the ſtone, but ſuch as are growing in the ſame year from the plum-ſtock: And this is called, Double-working of Peaches.

But notwithſtanding what may be alledged in favour of the neceſſity of this practice, I ever found all the moſt tender ſorts of Peaches to take readily to the Muſcle Plum ſtock, eſpecially if it was the ſame year's ſhoot; and I verily believe that the double-working of Peaches is an unneceſſary taſk, with reſpect to their growing.—Nevertheleſs, with regard to the fruit, it will be the moſt certain way of preſerving its delicate flavour true and untainted; and therefore may be practiſed, if a perſon is content to wait a year longer before he enjoys the fruit; for double-worked Peaches require a double quantity of time to others, before they become proper trees to be planted out for good.

Hitherto we have been treating of dwarfs for the walls; but beſides theſe, half ſtandards and ſtandards will be wanted; not to be planted out in the open ground, for that will never anſwer your expectation, but to be ſet againſt the walls, that their heads may occupy the upper parts, whilſt the others are trained underneath; and thus the upper part of the wall, as well as the lower, may at once become uſeful.

Theſe ſtandards ſhould conſiſt either of Muſcle Plum-trees of the height of four, five, or ſix feet; or they may be the Peach-trees trained up to any height wanted, before they are ſloped in their leading-ſhoot. In either caſe, let ſeveral of the lateral ſhoots remain on the ſtem, the more effectually to draw the ſap, and cauſe it to thicken in bulk; for if the ſtem at firſt be weak, the head will never be otherwiſe, and its duration alſo be a very ſhort time: On which account, an inch at leaſt in diameter ought to be the thickneſs of the ſtems of a ſtandard Peach at the bottom; and ſuch a ſtem will ſupport the vigour of the head, cauſe it to ſhoot ſtrong, produce plenty of fruit, and maintain its growth for a proportionably greater number of years.

Rules for planting out Peach-trees for good; with the method of pruning them, their after-management, &c.

Having thus attended our nurſeries until we have all the ſorts of any ſize required, we come now to the planting them out for good, which ought to be in October or November, though any time till the end of March will do.

If they are raiſed for ſale, it will be adviſeable never to raiſe more than what may be reaſonably expected to be vended in the courſe of one winter; for whatever remain unſold in the ſpring ſhould be dug up and thrown away. For this reaſon a nurſery-man ſhould every year make a plantation of Muſcle Plum-ſtocks for Peach-trees to ſucceed each other, for the regular ſupply of the country. This plantation ſhould always be continued to be made upon freſh land as much as conveniently may be; at leaſt there ought to be an interval of three years, after a quarter of Peach-trees is eradicated, before it is planted afreſh for the ſame purpoſe; during which time it ſhould be well dunged, and be employed in raiſing eſculents for the Kitchen uſe; or it will do without dunging, if it is continued in a ſtate of fallow, and no herbage or weeds be permitted to grow on it.

If the trees were raiſed for private uſe, our care then muſt be, to attend their being planted out properly, that they may the better anſwer the wiſhed-for purpoſes.

We ſuppoſe that there is extent of walling; and it matters not of what materials the walls are made; only brick is generally preferred on account of the handſome look, and the conveniency of nailing the ſhoots.

With regard to the ſoil in which they are to be planted, if it be naturally dry, light, and of good heart, it is exceedingly happy for your purpoſe: If it be ſtubborn, clayey, or marley land, it may be mellowed by art; and by placing brick-bats and dry hard materials at the bottom to prevent the roots ſtriking too deep, it may be rendered capable of giving a proper growth to the Peach-trees and fruit. But if it be of a damp or wet nature, never think of planting Peach-trees there, unleſs you can by drains draw off the redundant moiſture, leaving the mould no moiſter than it is found in other borders: For nothing is ſo great an enemy to Peach-trees as wet, eſpecially in ſtiff lands, as I experienced in one year, when I loſt upwards of ſix thouſand Peach and Nectarine trees by the prodigious quantity of wet which fell that ſeaſon.

But to proceed to preparing of the border: If it be naturally dry, light, of good heart, and of a warm nature, nothing more than common digging may be uſed for it. If it be wet, let good drains be laid, and the border be raiſed a foot above the level: If ſtubborn and clayey, then let drift-ſand, and old rotten dung that is nearly converted to mould, be added; and be ſure to let the bottoms of theſe borders have dry rubbiſh of any kind laid a foot thick, and rammed down, to prevent the roots of the Peach-trees from ſtriking deep; which would cauſe the trees to grow very luxuriant, but then they would be ill-bearers, and the fruit very bad taſted. This ſtratum of rubbiſh muſt be laid ſo deep, that the mould of the border may be two feet and an half above it; and with reſpect to the breadth of the border, it ought, if you have room for it, to be nine feet, though ſix feet only is generally made to do.

The diſtance the trees ſhould be planted from each other is fifteen feet. If the wall be but about ſeven feet high, I would adviſe no other than dwarfs to be ſet; if it be about nine feet high, a row of half-ſtandards may be placed between them; and if it be ten or twelve feet high, then a full ſtandard ſhould be made to occupy the upper parts of the wall, whilſt the lower part is filled by the dwarfs. Neither will this over-load the border too much; it will give ſufficient ſtrength to all the trees for the firſt ſix or ſeven years, by which time the ſtandards ought to be taken away to make room for the dwarfs, which will from that period uninterruptedly enjoy the whole border, and which before that period did not want it: So that thoſe perſons give very ill advice, who are for having no ſtandards ſet between the dwarfs, though the walls be high; as thereby they recommend your having half the crop only, which might otherwiſe ſafely be obtained from the ſame ſpot. Walling is a very expenſive article, and every part of it, as ſoon as may be, ought to be put to the uſes it is deſigned for, when it becomes practicable without impairing the goodneſs of the trees and fruit.

Mark out, therefore, the places for your dwarfs fifteen feet aſunder, and between each of theſe let an half ſtandard, or a ſtandard, according to the height of your walls, be ſet. Let them be taken out of the nurſery with care; let the broken and bruiſed parts of the roots be cut off, the ends of the main roots ſmoothed with an horizontal ſlope, and thoſe that would fall next the wall be entirely cut out; ſet them in the place marked for them in an upright poſition, having their buds outward, three inches only from the wall; let the fibres be carefully ſpread, and the mould well preſſed to the roots; then thruſt two pretty ſtrong ſticks at a diſtance from the root on each ſide of it, at an angle, that they may croſs each other at the ſtem. To theſe ſticks faſten your trees with baſs ſtrings, to prevent the roots being diſplaced by the agitation of the winds, &c. during the winter.

It is a cuſtomary rule, to plant the early ſorts together, and the late ſorts together; but this is a very bad practice. The chief value of ſome of the early ſorts is, becauſe they come early; and if they are not ſet in the moſt advantageous places, other and ſtill better fruit may be brought to the table as ſoon as them. Many of the late valuable kinds alſo, if they are not ſet in the moſt advantageous ſituations, will not ripen at all. Thus the moſt early and the lateſt ſorts, unleſs they both enjoy the moſt advantageous ſituations, will become uſeleſs. Let, therefore, the beſt ſituations be appropriated to both the ſorts, that you may have the early ſorts as ſoon as Nature deſigned them, and be more certain of the late ſorts, be the ſeaſons what they will. Indeed, if there is a large range of walling full upon the ſouth, and no part of it or the ſoil appears better adapted to forwarding of the fruit than another; then, and not otherwiſe, let the early ſorts be all planted by themſelves, the middle ſorts by themſelves, and all the late kinds in the like manner.

About the firſt or ſecond week in March, your new-planted trees muſt be headed down to about four or five eyes of the bud. This muſt be done with a ſharp knife ſloping juſt above an eye; and at the ſame time a firm hand muſt keep the ſtock ſteady, to prevent the root from being diſturbed in its place. A dry day and mild weather is highly proper for this work: So that if ſuch weather ſhould not happen the beginning of March, it may be deferred until the middle or even latter end of that month before you head your young trees.

All ſummer the ground muſt be kept clean from weeds; and if very dry weather ſhould happen, the trees ſhould be well watered every third evening; and when ſuch dry weather makes watering neceſſary, it will be highly proper to ſhade the trees, or lay ſome inverted turf near the ſtems; the latter of which methods, as it is attended with the leaſt trouble, is the moſt generally practiſed.

In April rub off all buds that appear before and behind the ſtem, and in June faſten the others in their places to prevent their being broken by the winds; and this is all the pruning they will require the firſt ſummer.

When the leaves are fallen, which is ſeldom before December, examine the ſtate of your trees, and prune them accordingly; but do not let this be done until the ſpring; then, ſuch as have made two ſtrong ſhoots for inſtance, and a ſmall one or two beſides, ſhorten the ſtrong ones to about eight or ten inches, and nail them horizontally to the wall, the one on one ſide, the other on the other; the weak ſhoot alſo need not be taken out or ſhortened, for this will bear fruit the following year; on which account it ought to be encouraged, as in ſo doing it will afford no detriment to the young tree, and may be afterwards removed.

If your tree has made only one ſtrong ſhoot, it ſhould be entirely taken out, in order to form a freſh head, and produce branches more ſuitably againſt the next ſeaſon.

If the tree has grown but badly, and has produced four or five weak ſhoots, as is often the caſe, then let two be brought to the wall on one ſide, and two on the other; let them be ſhortened to ſix inches, and let their poſition be horizontal, as before.

Theſe rules are to be obſerved with all your trees, according to the ſhoots they have made; and this is all to be done for the firſt year's pruning; or this is the ſole management that is neceſſary to be afforded the trees until the end of the firſt winter after being planted.

With regard to the border, That muſt be dug over in the autumn; and this buſineſs muſt be repeated every year. It ſhould be dunged once in two years, be conſtantly kept clean from weeds, and no herbage for uſe ought to be permitted to grow on it, if you would have all the flavour the fruit is poſſeſſed of conſpire to enrich its reliſh.

In May, your trees may be ſaid to be in their ſecond ſummer's growth. Your ſhoots by that time will be well formed; and this is the ſeaſon to perform the operation of ſummer-pruning, or rubbing off the buds. It ſhould be done with the thumb, for no knife at this time ſhould come near the tree; and thoſe buds ſhould be rubbed or pinched off which are ill-placed, and grow from the fore or back part of the branches, or ſuch as come out too cloſe, leaving only a ſufficient number of equal ſtrength to fill the tree alike on both ſides. As theſe extend in length, they ſhould be laid in their proper places, to prevent their being broken by the winds; and when the leaves are fallen, they ſhould be ſhortened to about a foot or ſixteen inches in length, and ſhould be then nailed to the wall at equal diſtances from each other.

Your tree now has compleated its two years growth, and is pruned for the third; and it is upon the right obſervance of this management during the firſt two years that the ſucceſs of your tree depends. By placing the branches horizontally at firſt, the bottom part of your wall becomes filled from the beginning; whereas if they are placed in the manner of the ſticks of an expanded fan, which by many is thought very clever, the vegetative power of the tree is thrown into the upright ſhoots; hence follows weakneſs to the lateral ones, and at laſt death; ſo that your tree in a little time will conſiſt, as is notoriouſly ſeen almoſt every where, of two or three upright naked ſticks with a few branches at the tops, producing ſmall, and frequently ill-flavoured fruit.

The third and ſucceeding ſummers after planting, the buds proceeding from the fore part and back part of the branches muſt be rubbed off as uſual, together with all ill-placed, irregular ſhoots, or where they come out too cloſe, and the others ſhould be then laid in their proper places, but ſhould not be ſhortened until the leaves are fallen.

At this time encreaſe your number of horizontals, and keep an exact equilibrium on both ſides of the tree. If you find your tree has ſhot equally on both ſides, it is happy in its growth; but if a ſtronger ſhoot than ordinary ſhould appear on either ſide, cut it entirely out, or it will ſoon draw the greateſt ſhare of the ſap to its own ſide, and proportionally weaken the other. All over-luxuriant ſhoots deſtroy, and alſo thoſe that are very weak, for the beſt fruit is produced from branches of moderate ſtrength; and from ſuch branches alſo the beſt ſhoots will proceed, both for filling the tree and bearing of fruit.

All along keep your middle open, filling it only by degrees, as the ſide-ſhoots make it neceſſary; and when you find an old branch is worn out, which its weakneſs and bad ſhooting will indicate, cut it off cloſe to the great branch from whence it proceeds, and fill up the vacancy by degrees from the adjacent parts.

From the time your tree comes into a bearing ſtate until its final decay, the chief care is to keep the branches uncrowded, of equal ſtrength on both ſides, and in ſuch a ſtate that no part of it be deſtitute of bearing-wood.

Bearing-wood conſiſts of the laſt year's ſhoot; ſo that where ſuch young wood is wanting, a contiguous branch may be ſhortened near the bottom, and this will cauſe it to ſhoot out others to fill the wall: Theſe ſhoots alſo may be multiplied by pinching off their ends in ſummer, for this will cauſe them to throw out other ſhoots; and thus any part of your wall may be again filled at pleaſure. This nipping of the ends ſhould always be performed in June, or ſooner, but never later; becauſe the young ſhoots that are produced by that means will not have time to grow to their proper ſtrength before the autumn, and will be ſpungy, weak, and ill-qualified to anſwer the purpoſes intended. As the young ſhoots are produced, they ſhould be regularly laid in their places, and when the leaves are fallen, ſhould be pruned as the others. In ſhortening of the branches, care muſt always be taken to cut juſt above a branch-bud, that, ſhooting in its vigour, it may draw the ſap through the whole branch, to the proper nouriſhment of the fruit that is on it. The branch-buds are always long, and of a firm ſubſtance; whereas the bloſſom-buds are thick and ſoft; and if you were to ſhorten a branch above one of theſe buds, the fruit would be ill-taſted, and the end of it would probably die.

Theſe are the general laws for pruning of Nectarine and Peach-trees. One common method of diſpoſing of the branches belongs to all the ſorts, but the diſtance they ſhould be left from one another varies a little in ſome of the ſorts. Thoſe ſorts that are ſmall, and ripen early, ſhould have their branches pretty cloſe to each other; thoſe of a larger ſize, ſtill at a greater diſtance; and the late large growing kinds ſhould have their branches laid very thinly to the wall, or the fruit will for the moſt part rot, and come to nothing.

There is no end of the directions given by Authors on this ſubject; but more than theſe are unneceſſary; they rather tend to confound than aſſiſt the Gardener in his practice.

He learns from what has been ſaid, how to plant and train his young trees from the beginning. He is inſtructed how to acquire new, or diſmiſs redundant ſhoots. He is taught the proper times of pruning; how to keep the tree free and open; and to diſpoſe the parts ſo, that all may receive equal benefit from the nutritious juices of the earth.

And to a tree thus conditioned, the Earth will impart her powers regularly to the different parts; the fruit will be perfect, and of equal goodneſs all over the tree. Peaches, too, thus raiſed, with all the advantages of good pruning, ſuitable ſoil, and propitious ſeaſons, have an exquiſite richneſs; and in exalted flavour are exceeded by no other fruit in the world; not even the Pine Apple, which is an inferior fruit, and whoſe univerſally-admired flavour muſt give way to the delicate ſoftneſs of a good-reliſhed Peach.

But before I quit this head, it may be neceſſary to ſay ſomething on the thinning of the fruit on the trees; for on that, as well as the proper management of the tree, the goodneſs of the fruit depends.

This thinning ſhould be performed ſoon after the bloſſoms are fallen; becauſe from that time, thoſe fruit which are to come off, will be robbing the others of their nouriſhment; and by their ſharing equally with them of the nutritious juices, will cauſe them to be proportionally ſmall and ill-taſted.

Directions for thinning of the fruit.

Let the thinning, therefore, be made as ſoon as the bloſſoms are fallen, and the fruit is ſet, when you will find them growing in bunches. Take all away from every bunch except one; nay, where the bunches appear cloſe, take ſome of them entirely out, leaving the fruit to grow ſingly, at diſtances according to their ſizes. The ſmalleſt Peaches ought not to be nearer to each other than three inches; and your large growing Late Peaches ought to be a foot aſunder.

I know it will go greatly againſt the grain with Many to deſtroy ſo much fruit; but it muſt be done, if you would have the others equally good, and of true flavour: It ought alſo to be leſs regretted, becauſe ſuch fruit will be much larger; and perhaps the whole crop will be as heavy as it would have been had it not been thinned, but conſiſted of many times the number of fruit. Add to this, by thinning the fruit the tree itſelf is kept in good vigour; and by not being over-burdened in the different parts, it will be in better condition for affording a good crop the next year. Such trees alſo will laſt a proportionable number of years longer before they decay; for it is now found by experience, that well-managed Peach and Nectarine trees will grow, and will continue to produce fruit for fifty or ſixty years; though with oppoſite treatment they are ſeldom found to ſurvive twenty years. Thus by proper thinning of the fruit, as well as by other good management, the health of our trees is preſerved, and they continue to afford us their delicious bounties in the ſummit of perfection for a much longer term; motives ſufficient ſurely to abate all deſire of having too great a quantity of fruit on the ſame tree in one year.

By digging of the border alſo, and continuing it in a perpetual fallow, the health of the tree is preſerved, and the true reliſh given to the fruit. How many brains have been puzzled to account for blights, and have ranſacked the air for the cauſes from which they proceed! whereas numbers of them riſe from the earth, through the crude and uncorrected juices with which it will abound, if crops of eſculents are annually raiſed on it; and which entering the pores contaminate the juices, and bring on various diſeaſes and blights, that have been fancied to proceed from the air.

How to preſerve the bloſſoms from ſharp winds.

Various methods have been uſed to preſerve the bloſſoms of theſe trees from being taken off by ſharp winds; ſuch as drawing boughs of ſpruce fir between the branches, placing mattreſſes of reeds, ſtraw, and other ſhelter before the trees; but I always found theſe ineffectual: They make the parts ſo tender, that if they are removed to give free air to the tree, the cold becomes overpowering, and the ground will be ſtrewed with fallen bloſſoms and ſmall fruit from a tree that is in good health. Indeed where a tree is weak, the bloſſoms will of courſe fall off, whether they are ſheltered from the cold or not; but where the tree is in good order, there will be a tolerable degree of certainty of fruit, let the weather be almoſt what it will. The bloſſoms being firmly fixed, and well ſupported with good aliment, will weather it out, as it were, againſt the attacks of the ſevereſt blaſts.

The cold ſouth-weſterly winds, which frequently happen in the ſpring, are as dangerous to Peach-bloſſoms as any I know. They take them ſide-ways, and with furious impetuoſity ruſh upon the wall the whole length: And by theſe I have known a range of walling diſmantled at once of its beauties, and a period put to its choice products for that ſeaſon.

The beſt way to guard againſt theſe winds is to plant very cloſe ſeveral rows of large elm-trees at a proper diſtance; for theſe will ſoon ſufficiently break the force, and take off the deſtructive edge of ſuch winds, though they be ſet upwards of an hundred yards from the place.

Thus having the keen edge of ſuch winds taken off, the bloſſoms, through their natural ſtrength, on healthy, well-managed trees will ſupport themſelves, and the fruit will ſucceed them in due order.

If a very dry ſummer ſhould happen, the tree ſhould be well watered once a week, or a great part of your fruit will drop off, and the others be ſtinted in their growth, and ill taſted; the tree alſo will ſhoot weak, and that vigour in which it ought always to be kept be ſo far abated, that the effects of it will be viſible the ſucceeding year. In order, therefore, to continue the tree and fruit in good condition, let ſome mould be placed in a circular ridge at about four feet from the ſtem of each tree, to prevent the water running off, and then in an evening pour to the root of every tree three buckets full of water; and if this be repeated once a week, it will be ſufficient.

Of the diſeaſes of the leaves, branches, ſhoots, &c.

In the courſe of your practice, whenever you find any of the branches to gum, cut them out an inch below the parts, and they will ſoon ſhoot out afreſh, and fill up the parts; but if the diſtemper ſpreads itſelf over the whole tree, pull it up, then bring in ſome freſh mould, and at the proper ſeaſon plant another of a different kind in its place.

If the leaves of your trees ſhould at any time curl, become red, yellow, thick, and ſcabby, clip them off; and if all the leaves of a whole ſhoot are thus diſtempered, cut it out, and it will ſhoot out afreſh for the next year.

If at any time you ſhould perceive the leaves or ſhoots to become black and clammy, it is an alarming circumſtance: It is a peſtilence, which will run through the whole walling, and deſtroy all your trees if it be not timely ſtopped; and there is no ſtopping of it except by pulling up the tree the inſtant the ſymptoms of the diſtemper appear: After this waſh the wall with lime, or ſtrong brine; but do not plant a tree in the room, until the ſecond planting-ſeaſon after the diſtemper broke out.

Eradicate your trees alſo when the ſigns of old age appear, and plant afreſh. Theſe ſymptoms are, ſmall fruit, yellowiſh leaves, and weak ſhoots. Many perſons take great pains to head down ſuch trees, to cauſe them to ſhoot out freſh wood from the bottom; an admirable practice with regard to an old Apricot-tree, but which ſeldom anſwers with a Peach; for though young ſhoots, and very good ones too, are often produced, yet they are very liable to gum, and ſoon go off: And conſidering the little trouble and expence there is in planting afreſh; that ſuch young trees are ſoon brought to bear, and have a whole life before them to afford you their proper fruit in due ſeaſon; the practice of heading down old trees for what little fruit during a few years may be obtained from them, is not worth attempting.

Of obtaining new ſorts of Peaches and Nectarines.

It is truly commendable in people of fortune and leiſure to employ their time in cultivating and improving the products of the earth for the general good: It is partly an amuſement; it is really an undertaking that requires penetration and judgment to perform it properly: And the reflections that reſult from ſuch experience are attended with no inquietudes like other diverſions, in which too many ſquander away their time; but all conduce to the utmoſt ſatisfaction, and afford conſolation and pleaſure to every perſon who is exerciſed in them.

The valuable products of our Kitchen Gardens are varieties only of what may be called mean ſorts, and which have been procured by ſowing of the ſeeds, and afterwards kept up by proper culture and management. The Prize Flowers in our ſheds have been obtained that way; and notwithſtanding their glowing beauties burſting forth in their gaudy attire, the parent of them all, perhaps, has been a pitiful Single flower of a dull colour.

Fruits in the ſame manner vary by culture; and the variety of Apples, Pears, Plums, Peaches, and Nectarines, have proceeded originally from one ſort only in their reſpective kinds. The ſorts we have of all of them are numerous, and the kinds are truly valuable; and as they have been accidentally ſo eaſily obtained from ſeeds, it is a motive ſufficient to put us upon trying for others, to improve our ſtock, and encreaſe our collection.—Of theſe, none affords greater encouragement to make an attempt than the Peach, as thereby we may hit upon ſome valuable kinds, that are of an hardier nature than the generality of thoſe we have; and by being enured from the beginning to our ſoil and climate, may be managed with leſs difficulty and expence.

In order, therefore, to obtain new kinds of Peaches and Nectarines, let the ſtones be ſaved of all the beſt ſorts, whether they are Melters, or of firm fleſh. Let the fineſt fruit on the ſeveral trees be culled for this purpoſe, and let it be permitted to fall to the ground, that you may be certain of the kernels being perfectly ripened. Let the ſorts be kept ſeparate, and let them be ſown in rows in a warm well-dug part of the ſeminary, covering them over with two inches of fine earth. Let one ſort only be to a row; let them be booked, and a number-ſtick for a direction placed at the end of each row. In the ſpring your young trees will come up; and all that ſummer nothing more need be done, than watering them in dry weather to encourage their growth, and keeping them clean from weeds. In the autumn dig between the rows, and they will call for no other attendance all the winter. In the following ſummer water them at times, if dry weather makes it neceſſary; keep the ground clean from weeds, and in October they will be fit to be planted out for good.

Thoſe perſons give very ill advice who are for having them planted as ſtandards, ſingly, in the different parts of the Kitchen Garden; for from ſuch trees hardly any fruit is ever obtained; and That ſmall, and of little value. Take the beſt of our Peaches, and train it as a ſtandard in the Kitchen Garden, and you will find the fruit, if it bears any, ſo inferior to the like kind growing againſt the wall, that it will not deſerve to be named with it: So that provided Peach-trees would bear in ſtandards, like Apples and Pears, yet as it is ſtrictly a wall-tree, it would be a very bad practice to try the true value of the ſorts that way; for you muſt wait long enough before you will find them to bear at all; and you muſt wait much longer, before you find on ſuch trees a Peach abounding with juices rich enough to merit its being propagated and ranked among the valuable ſorts we already have.

In order, therefore, to know what fruit your ſeedling-trees will produce, and in the leaſt time too, let them be planted againſt a good aſpected wall; and as it is ſuppoſed that no wall is at liberty for ſuch experiments about the garden, let a wall be built in a convenient place; and for cheapneſs, let it be of mud, which is as good walling, though not ſo handſome to look at, for the ripening of fruit, as any other kind whatſoever.

Let the wall be ſix feet high, for that will be high enough for the purpoſe; and let it be coped with ſtraw and mortar. Let the border be prepared according to the ſtricteſt laws preſcribed before for the benefiting of the fruit; and then let your plants be taken out of the nurſery; and having ſhortened the down-right root, let them be planted againſt this wall, at a yard diſtance from each other. This diſtance will be far enough, as their continuance here is deſigned to be but a very little time; for, after they have ſufficiently ſhewed their fruit, and the valuable ſorts have afforded cuttings for encreaſe, all are to be grubbed up and thrown away, to make room for a freſh ſet of plants for the like experiment.

The trees being thus planted, ſhould be managed in the ſame manner as the other Peach-trees againſt walls; and about the ſecond year many of them will bear. Thoſe fruit which appear worthleſs ſhould have the tree grubbed up at the firſt, to make room for the adjacent ones, ſhould there be an occaſion of continuing them. Thoſe Peaches alſo, which diſcover admirable properties, as ſoon as they have afforded you cuttings for encreaſe, and you find the buds are taken, ſhould be grubbed up for the like reaſon; for there will be among theſe many Peaches which ought to bear three years, before you finally determine the fate of the tree. If you find a Peach anſwers the properties of a good one in appearance, but is deficient in flavour, give ſuch a tree the niceſt management for the next year, and even the year after that, to improve it, if poſſible; and if it affords you Peaches of different degrees of goodneſs, ſtill continue its culture; for you have reaſon enough to hope it will at laſt be worth your while. But if the ſame inſipid flavour which at firſt diſcovered itſelf, continues uniformly, invariably, and ſucceſſively, for three years, then grub up the tree, let the viſible excellence of the fruit be what it will.

After all, it is a better way, where a regular nurſery of Peach-trees is kept up, to take buds from the ſeedlings as ſoon as they are proper for the purpoſe, and work them into the young ſhoots of the Peach-trees as they are made directly from the Muſcle Plum ſtocks. Such trees will be then double-worked; and being planted againſt the wall in the like manner, will with more certainty be brought to bear, and diſcover the true nature and qualities of the fruit.

Properties of a good Peach.

The properties of a good Peach are, 1. The fruit ſhould be large, and of a good figure. 2. The ſkin ſhould be thin, of a bright red, or purple colour next the ſun, but yellowiſh next the wall. 3. The fleſh ſhould be firm, or melting, in the ſtricteſt ſenſe; for both thoſe qualities have nearly equal advocates for being the beſt. 4. The ſtone ſhould be ſmall, and the pulp adhering to it of a bright red, or purple colour. 5. The juice ſhould flow in plenty, and ſhould be of the moſt exalted reliſh.

Theſe are the properties of a good Peach; and when your Seedling plantation affords you one with theſe properties, you have a valuable acquiſition, and your laudable induſtry deſerves the praiſe of all. You then propagate it carefully, diſperſe it abroad, and you may, if you pleaſe, call it after your own name; by which it may be ever after known to the world.

CHAP. XII.

PRUNUS ARMENIACA, The APRICOT TREE.

Introductory Remarks.

THE Apricot, like the Peach-tree, is of uncertain original; for tho' we have early accounts of its being brought into Europe from Armenia, it does not from thence follow that this tree grows naturally in that country. On the contrary, we are aſſured, that after the ſtricteſt ſearch in thoſe parts, no Apricot-trees have been found growing ſpontaneouſly in a ſtate of Nature.

The varieties of Apricots are inconſiderable in number, when compared with the numerous train of Peaches and Nectarines belonging to the former ſpecies. About twelve ſorts only compoſe our preſent collection; and the beſt of theſe is of inferior value, not only to the Peaches and Nectarines, but even to the beſt ſorts of Plums and Cherries; for it is but an indifferent fruit at the beſt, being moſtly mealy; the little acid it is poſſeſſed of not very agreeable; one ſide ſo long ripe before the other, that, if left growing until the lateſt part is come to perfection, it is frequently rotten through heavy rains, and opened for the admiſſion of earwigs and inſects; ſo that, upon the whole, we muſt pronounce the Apricot, in all its varieties, among the worſt ſorts of ſtone fruit which compoſe our valuable collections.

They are beautiful trees, however, hardy, quick growers, and the fruit has advocates to whom it is ſo highly agreeable, that they pronounce it the beſt fruit in the world; and for thoſe who do not reliſh it at the table as fruit, if gathered early, it is good for tarts; and, being preſerved in ſugar, affords a ſweet-meat of the firſt claſs. The principal varieties of this fruit go by the reſpective names of

1. The Little Early Apricot.
2. The White Maſculine Apricot.
3. The Red Maſculine Apricot.
4. The Tranſparent Apricot.
5. The Orange Apricot.
6. The Algiers Apricot.
7. The Turkey Apricot.
8. The Roman Apricot.
9. The Italian Apricot.
10. The Dutch Apricot.
11. The Temple Apricot.
12. The Breda Apricot.
13. The Bruſſels Apricot.

Little Early,

1. The Little Early Apricot. The branches are ſlender, the bark brown, and the leaves ſmall. The fruit is ſmall, juicy, and is ripe early in July.

White Maſculine,

2. White Maſculine. The wood and leaves of this are ſmaller than thoſe of the ſucceeding ſort. The fruit is ſmall, round, of a whitiſh-yellow colour, full of a ſweet juice, and is ripe the early part of July.

Red Maſculine,

3. The Red Maſculine. The wood and leaves of this tree are ſmall. The fruit is round, and of a brown-red colour next the ſun; the juice is ſweet and good, and is ripe the middle of July. Theſe three ſorts go indiſcriminately by the names of the Maſculine Apricot, and the Early Apricot. They are in general good bearers; their juice moſt refined; and they are, in my opinion, better worth propagating than all the reſt of the Apricots put together.

Tranſparent,

4. Tranſparent Apricot. The wood and leaves of this tree are ſmall, but larger than the former ſorts. The fruit alſo is larger, but muſt be ranked among the ſmall ſorts of Apricots. It is of a whitiſh-yellow colour on the outſide, the fleſh tolerably good, and it is ripe the end of July, or early in Auguſt.

The Orange,

5. The Orange Apricot is a free grower. The branches are ſtrong, and the leaves large. The fruit is large, and of a roundiſh figure; the ſide next the ſun marked more or leſs with red; the fleſh of a deep yellow, or orange colour, firm, but harſh to the taſte, and is ripe in Auguſt. This tree is a good bearer, and its fruit is better worth propagating for ſweet-meats, tarts, &c. than for the table.

Algiers,

6. Algiers Apricot is a free ſhooter, but the wood is hardly ſo ſtrong as the former. The fruit is of an oval figure, compreſſed, of a pale yellow colour, ripens about the ſame time with the former, and is of little better flavour.

The Turkey,

7. The Turkey Apricot is a large tree. The branches are thick and ſtrong, and the leaves broad and ſhining. The fruit is very large, oval, compreſſed on the ſides, and of a deep yellow colour. The fleſh is firm, and of a pretty good flavour; ſo that the fruit is as well worth propagating for the table as any of the larger ſorts of Apricots. It ripens the middle or end of Auguſt.

Roman,

8. Roman Apricot. The tree is a free ſhooter, and grows to be of the largeſt ſize. The fruit is large, almoſt round, of a yellow colour, firm, juicy, and ripe by the end of Auguſt.

Italian,

9. Italian Apricot. This tree is of much lower growth than the former, the branches ſlender, and the leaves ſmaller; but the fruit ripens about the ſame time. It is ſmall, roundiſh, and of a deep yellow colour; the fleſh is firm, and adheres to the ſtone.

Dutch,

10. Dutch Apricot is a tolerable ſtrong-growing tree. The fruit is very large, nearly oval, compreſſed on the ſides, of a yellow colour, having a few marks of red on the ſide next the ſun, and is ripe the end of Auguſt.

Temple,

11. Temple Apricot. The wood of this tree ſhoots freely; but this tree is not ſo robuſt as the Orange or Turkey ſorts. The fruit is of the middle ſize, roundiſh, and compreſſed. The fleſh is of a deep yellow colour, firm, and well-flavoured when ripe, which is generally the end of Auguſt. This tree is a good bearer, and is as well worth propagating as moſt of them.

Breda,

12. Breda Apricot. The fruit is large againſt a wall, but ſmall, and of little value, in ſtandards, for which the tree is generally planted. It is of a globular form, and of a deep yellow colour within and without; and the fleſh, when raiſed againſt a good wall, is tolerably ſweet, ſoft, and good. It ripens the end of Auguſt.

and the Bruſſels Apricot.

13. The Bruſſels Apricot is generally planted for ſtandards, where it ſeldom ſucceeds; but, when planted againſt a wall, is a good fruit, and is often ripe the earlieſt of any of them, except the firſt four ſorts. The fruit is of the middle ſize, roundiſh, and ſpotted with red next the ſun, but yellowiſh on the oppoſite ſide. The fleſh is firm, of a deep orange colour, briſk, and well-flavoured, if raiſed againſt a wall, and ripe in Auguſt.

The fifth, ſixth, ſeventh, eighth, ninth, tenth, and eleventh ſorts are frequently confounded with one another; and if you ſend nurſerymen for all the ſorts with their reſpective names, when they come to bear, you will not find, perhaps, more than three or four diſtinct kinds, one and the ſame kind going under two or three different names. This has induced many to believe that there were no more than about three or four diſtinct ſorts; but they ſhould be reminded, that they may as well conclude, that there is only one ſort of Apricot called the Common Apricot, there being never a variety of this fruit but what goes by that name in one part or other; and that the Common Apricot is more enquired after among nurſerymen than any of the kinds under their reſpective names. I have ſeen numerous perſons obtain that fruit in order to aſcertain the real difference, and the number of kinds; and, as moſt others have experienced, I have generally found not more than three or four ſorts. This has induced me to apply to others who dealt in fruit-trees; and I ſometimes found a freſh ſort or two added to the number. This experiment has been repeated, and one or more has been added to the liſt; ſo that, upon the whole, I think I may ſafely conclude, that the above enumerated kinds differ in ſome reſpect or other, and that they are real and diſtinct kinds of Apricots.

That

Hints to Nurſerymen.

The confounding the names of fruit is a great complaint, and for which the nurſerymen are generally blamed, as uſing their cuſtomers ill, by baulking their expectations, and fruſtrating their hopes of the wiſhed-for kinds. A deception of this kind can certainly be no intereſt to a nurſeryman, for one kind is as eaſily raiſed as another; but they are blameable in taking cuttings to propagate upon hearſay, neglecting to book them, and the like. In order, therefore, to aſcertain the true and diſtinct kinds of all ſorts of fruit, and raiſe them in ſucceſſion for ſale, no cutting ſhould be taken from a tree until it has bore, and proved itſelf to be not only the true, but a good kind of the true ſort; and when a general collection of trees have demonſtrated themſelves to be the true and only kinds in that way, they muſt be booked and marked out as proper trees, from which cuttings are to be gathered for encreaſe. To theſe trees, and not to plants in the nurſery-rows, the Gardener is to repair for cuttings; and when they get old or unhealthy, one or more of the beſt and moſt thriving ſhould be taken out of the nurſery-lines, and be planted for the ſame purpoſes in ſome ſelect part of the garden: And if they would be careful, at the time of budding or grafting, properly to book the rows, the real diſtinct kinds would be preſerved ſeparate; and a gentleman who wants twenty trees may as well have twenty different ſorts, as four or five only; which too often happens to be the caſe when the order comes to a careleſs nurſeryman.

Culture.

Apricots are raiſed by budding upon Plum-ſtocks raiſed from ſeeds of all the ſorts of Plums, for there is no good reaſon to object to any of them; and if any muſt be preferred, it ſhould be the Muſcle-ſtock, and the Black Bullace, when deſigned for dwarfs. Some are very anxious in diſſuading from ſowing the ſtones of Sweet Plums for ſtocks; becauſe, ſay they, the more harſh and ſour the fruit of the ſtock is, the greater tendency it will have to communicate a quickneſs to the Apricot, and cauſe it to become leſs mealy. This may be true; but every one who has raiſed Plum-ſtocks, and for experiment kept them to bear, knows, that were you to ſow the ſtones of the ſweeteſt Plums that could be collected, hardly a tree in five hundred would be raiſed that would produce ſweet fruit in return. Sow, therefore, any ſeed that you can conveniently come at; and if you chooſe to have the Apricot-trees of ſmaller growth, raiſe them on the ſtock of the Black Bullace, taken from ſuckers or layers; for theſe have the ſame effect on Apricots as Paradiſe-ſtocks have on Apples, by dwarfing them, cauſing them to be leſs vigorous and ſtrong, and rendering them more proper for low walls, eſpaliers, dwarfs, or the like.

Having procured a ſufficient number of plums for ſeeds, lay them by for a few days, until the fruit begins to decay; then clear it from the ſtones, and ſow them thinly in beds of good garden-mould made fine. Sift over them two inches depth of the ſame kind of fine mould; and having neated up the beds, leave them for the winter. Early in the ſpring plenty of weeds will ſhew themſelves on the beds: Theſe muſt be carefully picked out; and if a dry harſh time ſhould happen, as it frequently does at that ſeaſon, the ſurface of the mould ſhould be ſtirred, and the beds ſhould be frequently refreſhed with water. The Plum-ſeedlings will then riſe ſtrong and firm; and if they are kept clean from weeds all ſummer, and watered in dry weather, they will be proper plants for the Nurſery in autumn.

The ground for their reception in the Nurſery muſt be double-dug, and cleared from all roots, weeds, &c. and having taken the Plum ſtocks out of the ſeed-beds, and trimmed the roots, they muſt be ſet in rows, a foot aſunder; the rows being two feet diſtant from each other. The early part of October is the beſt ſeaſon for this work; and the proceſs is the uſual way of planting in the Nurſery buſineſs.

As the ſpring advances, weeds will appear: Theſe muſt be regularly taken off as they ſhew themſelves, and the ground muſt be kept clean all ſummer; but no water can be allowed the ſtocks (if in tolerable quantities) let the weather be what it will; for there would be no end of watering trees in the Nurſery-ground.

In the autumn, or ſome part of the winter, the ground between the rows ſhould be dug; and if a ſlight digging or ſtirring of the mould be afforded it again about the end of March, it will deſtroy the riſing weeds, and much benefit the plants.

The ſummer following the ſtocks will be fit to bud, when you ſhould mark out a ſufficient part for dwarfs, and leave a ſelect corner of the ſtrongeſt ſhooters to be trained to regular ſtems, to be budded for ſtandards or half-ſtandards, or whatever ſize is wanted. The middle of Auguſt is the beſt time for this work; and the budding is performed in the uſual way, on the ſide of the ſtocks oppoſite to the ſun, obſerving to book the ſorts, and being careful to preſerve diſtinctly the different kinds. When you find the buds have taken, which may be known by the healthy, freſh appearance they ſtill retain, and the bark of the ſtocks ſwells above the bandage, and appears confined, which will be in about three weeks or a month from the operation, the bandage ſhould be taken off; but the ſtocks need not be headed before the ſpring following. In the winter dig between the rows, as uſual; and in the ſpring cut off the ſtocks to within an inch or two above the buds. They will then ſoon ſhew themſelves Apricot trees riſing from the ſides of Plum-ſtocks; and if they are kept clean from weeds all ſummer, their ſhoots by the autumn will be prodigious; and they will be then proper plants to be ſet out for good.

They require no particular compoſt in which to be ſtationed; for being hardy, any common garden mould in tolerable good heart will be ſuitable to them, unleſs it be wet, damp, and ſtubborn. Such land generally binds on the firſt approach of drying winds and hot weather; then it cracks, divides into chaſms in ſummer, and in winter is of ſo cold and ſtarved a nature, that at that ſeaſon it totally deſtroys Peach-trees, impairs the health of Apricots, and threatens deſtruction to the hardieſt fruit-trees. Such land, nevertheleſs, may be helped and made proper for Apricot-trees, 1. By laying a drain to take off all redundant moiſture. 2. By taking out the mould of the border two feet deep, and laying a ſtratum of brick-bats, rubbiſh, &c. to prevent the roots of the trees from ſtriking too deep. And, 3. By mixing with the mould coal-aſhes and drift ſand ſufficient to raiſe it eight or ten inches above the level. The ſituation thus ordered, will be very proper for the reception of Apricots or any wall-trees whatſoever.

Method of helping land unſuitable to Apricot-trees.

No particular breadth need be ordered for the border; for Apricot-trees will ſucceed very well if there is no border, and the ſoil be different from the preceding. Nevertheleſs, they muſt do better if ſtationed in a well-ordered border, three, four, or five feet in breadth. An eaſt or weſt aſpect will be proper for Apricots, whilſt the warmer ſituations facing the ſouth ſun ſhould be appropriated to the more tender kinds of Peaches, or early fruit. As Apricots are larger growing trees than Peaches, the walls ſhould be proportionably higher, and the trees ſhould be planted twenty feet diſtance from each other, that they may have room to ſpread, and be trained to a good height; for theſe trees, if properly raiſed at firſt, will cover a large ſhare of walling; and it is their property, when grown old and of large ſize, to produce larger fruit, greater plenty, fairer, and better flavoured; ſo that an Apricot-tree, differing from moſt things, is moſt valuable in its old age.

The time for planting the young trees from the Nurſery is any time from the autumn to the ſpring; though October is generally allowed to be the beſt ſeaſon. I have found no difference in any of the other months, ſince I have planted them; ſo that if a perſon cannot get his ground ready in October, November, or December; January, February, or the early part of March will do. They ſhould be planted in the uſual way, along the wall, at twenty feet aſunder, unleſs the trees have been raiſed on the Black Bullace ſtocks: Then twelve or fourteen feet will be ſufficient; and when they are planted, a ſtrong ſtick ſhould be thruſt down, to which they ſhould be faſtened to keep them ſteady and unſhaken until the ſpring; when the ſhoots ſhould be cut off to within four eyes of the buds, which eyes ſhould be two on each ſide of the ſhoot; and if any happen to be on the front or back part, they ſhould be rubbed off. In the ſpring, when the weather becomes warm and dry, the plants ſhould be frequently watered; ſome inverted turf alſo ſhould be laid about them to keep the ground cool: And this, except ſlightly nailing the young branches, when they get long, to the wall, to prevent their being broken by the winds, is all the trouble they will cauſe in the ſummer and following winter. In the ſpring the young branches ſhould be nailed horizontally againſt the walls. The loweſt ſhoots ſhould be ten or twelve inches long; the two next upward not more than eight: And having done this, the ſecond year's pruning is compleated, except pinching off fore-right and back ſhoots, and ſlightly nailing the others to the wall, to prevent their being broken off by the winds; but none of them ſhould be ſhortened as they grow in the ſummer. In the ſummer's nailing, the ſhoots ſhould be brought down to the places where they are deſigned to remain; for they are then pliable, and, if uſed to it at firſt, will ſuffer leſs in bending at the time of pruning, when they are to be finally fixed to the wall in the ſpring.

In the ſpring the ſhoots muſt be ſhortened according to their ſtrength and ſituation on the young tree. The loweſt branches muſt be extended the longeſt; the number of horizontals muſt be increaſed; the middle at preſent muſt be kept open; and if one ſide ſhoots ſtronger than the other, ſuch ſtrong ſhoots ſhould be entirely taken out or ſhortened, that the ſap may draw equally on both ſides, and the tree arrive uniformly to perfection. It is a common rule in pruning, to cut off ſhort, weak, ſtraggling ſhoots, ſpurs, or whatever has a tendency to make the tree appear unhandſome. The Gardener knows, and every other perſon is to be reminded, that the Apricot-tree produces ſhort, ſtiff ſhoots, called ſpurs: Theſe are by no means to be taken off, for they are bearing wood; and from them the beſt fruit is often gathered. As the tree increaſes in age, the middle is to be filled up by degrees; and if any part decays through over-bearing, blight, or accident, it is to be entirely taken out, and a contiguous branch ſhortened near the bottom, to produce freſh ſhoots, and fill up the vacancy: And thus you muſt proceed from year to year to manage your Apricot-trees, keeping every part of the wall full of good wood, ſuſtaining an exact equilibrium on both ſides, by reducing redundant ſhoots, and multiplying others as they are wanted, from the time of planting until the full growth, and even total decay of the tree. For when an Apricot-tree thro' exceſſive age becomes infirm, and a large part dies off together, more than ordinary nurſing ſhould attend that tree; for the living parts of ſuch a tree, if properly managed, will produce better flavoured fruit, and in greater plenty, than any young tree whatſoever. And here I cannot but obſerve, that in neglected gardens ſome Apricot-trees are found growing wild, and through age appear decayed, and good for nothing. On the return of culture to this ſpot, through the taſte of a new poſſeſſor, or the like, ſuch trees are generally grubbed up to make room for young ones. But this ſhould be ſo far from being practiſed, that every one ſhould look upon an old Apricot-tree as an acquiſition to his Collection; for if it be headed down low, it will produce freſh ſhoots, will ſoon commence a bearing ſtate, will maintain it under proper management from generation to generation, and will all along afford you the beſt fruit the nature of the Apricot-tree is capable of exhibiting.

When an Apricot-tree is planted out as a ſtandard, it requires no more trouble inpruning than a Standard Apple or Plum-tree; irregular, worn-out, and croſs branches being only to be taken out: So that if the fruit would be equally good, a great deal of trouble and expence would be ſaved, compared with what is occaſioned by raiſing them againſt walls. But this is ſo far from being the caſe, that I believe hardly ever a good Apricot is obtained from a ſtandard-tree. I have been informed, indeed, that they ripen well in the warmeſt parts of England. It may be ſo; but from all the experiments I have made, in planting them in the warmeſt and different parts of our extenſive plantations, I ever found the fruit to be ſmall, ill-taſted, and cracked; and if any tolerable quantity of rain had happened, rotten on one ſide before the other was ripe. The fruit, however, is good for preſerving for pies and tarts, and a large quantity may be obtained this way at a little expence, though they do better in half-ſtandards than ſtandards, and ſtill better in dwarfs and eſpaliers; becauſe, being nearer the ground, the bloom is leſs liable to be deſtroyed at firſt, and the fruit, to the inſults of a more elevated expoſure hereafter.

The fruit of theſe trees, in every ſituation, muſt be thinned in a manner ſimilar to the Peaches; though they may be left in greater plenty on the tree: But this ſhould not encourage one to be over-covetous; a ſprinkling only of good fruit being much ſuperior to ten times the number taken from a loaded and unthinned tree.

CHAP.

CHAP. XIII.

PRUNUS DOMESTICA, The PLUM TREE.

Introductory Remarks.

THIS ſpecies ſports in variety more than the former, and the valuable ſorts of it are more numerous than thoſe of the Peach itſelf. Theſe are raiſed and continued according to the laws of the Nurſery-buſineſs: But if a perſon is deſirous of obtaining at once a large ſtock of coarſe Plums for preſerving, baking, or the like, he may eaſily effect it, by ſowing the ſeeds of the beſt ſorts of Plums, and, when they are fit to remove, by planting them out for good. Moſt of them will prove good bearers; the fruit of a few will be good for the table; and the reſt, tho' their juice will be ſour and uncorrected, are nevertheleſs good for pies, and other culinary purpoſes. I planted out ſome thouſands for experiments this way; and I believe I had in return more than five hundred diſtinct ſorts of Plums, moſt of which were excellent for Kitchen purpoſes, but not more than three or four ſorts proper to be eaten as fruit; among which was a Summer Bullace; a Plum which was of the ſhape, ſize, and had all the flavour of the Black Bullace, tho' in a heightened ſtate, and was ripe in July. Having ſaid thus much of this rude way of raiſing uſeful Plums, and obtaining freſh ſorts, proceed we now to the cultivated Plum-trees of our Gardens.

Theſe are commonly called,

Species.

1. Cherry Plum.
2. Jean-Hâtive.
3. Morocco, or Early Black Damaſk Plum.
4. Small Black Damaſk.
5. The Violet Damaſk.
6. Italian Damaſk.
7. Tours Damaſk.
8. Amber.
9. Mirabel.
10. Le Royal.
11. Fotheringham.
12. Orleans.
13. Black Perdigron.
14. Blue Perdigron.
15. White Perdigron.
16. Red Queen Mother.
17. White Queen Mother.
18. Roche-Courbon, or Red Diaper Plum.
19. Green Gage.
20. Blue Gage.
21. Cloth of Gold Plum, or, Drap d'Or.
22. White Matchleſs.
23. Old Apricot Plum.
24. New Apricot Plum.
25. Cheſton Plum.
26. Brignole.
27. Verdock.
28. Mangeron.
29. Red Spaniſh Damaſk.
30. Little Green Damaſk.
31. Violet.
32. Wentworth Plum.
33. Red Bonum Magnum.
34. White Bonum Magnum.
35. Great Queen Claude.
36. Little Queen Claude.
37. St. Catharine.
38. St. Julian.
39. Pear Plum.
40. Imperatrice.
41. Muſcle.
42. York Wine Sour, or Rotherham Plum.
43. White Bullace.
44. Black Bullace.
45. Red Bullace.

There are numerous other varieties of Plums, the bare mention of which would only have a tendency to confound the ſorts, and deſtroy the poſſibility of judging with preciſion of the real difference, unleſs the fruit could be preſented to the view and taſte, inſtead of the deſcription. The above ſorts are generally cultivated among Nurſery-men; and by application to them, the kinds may in a great meaſure be obtained; though the ſorts of Plums, like other fruit, are frequently confounded; one ſort paſſes for another, and under twenty or thirty different names you perhaps will not have half the number of real, diſtinct ſorts: So that whoever is deſirous of obtaining a good collection of this fruit, muſt obtain it by a variety of orders from the different Nurſery-men of the beſt reputation in the different parts.

Cherry Plum;

1. Cherry Plum. I mention this fruit, becauſe if ſtationed againſt a good wall in a warm ſituation, it is the firſt Plum we have ripe in England. It is round, red, ſweet, and well-flavoured; ſhaped like a Cherry, but larger; and grows on a long, ſlender foot-ſtalk. The tree is uſed as a flowering ſhrub, and is planted in wilderneſs-quarters, and the like, where it has a noble effect by the profuſion of bloom it exhibits in the early ſpring. Even there it produces fruit, though ſparingly, and in ſome meaſure ſerves the owner as an ornamental ſhrub and a fruit-tree. But as the fruit is good, and very early, it is not only deſerving of a place againſt the beſt part of our walling, but even againſt the hot-wall; and it will come in before any of the other kinds of forced Plums.

Jean-Hâtive,

2. Jean-Hâtive is an oblong Plum, under the middle-ſize, of a yellow colour powdered with white. The fleſh is pretty firm, parts from the ſtone, and has no extraordinary flavour; but coming early, it is recommended for the beſt ſituations, and even a hot-wall, to introduce the ſucceeding kinds of Plums. Againſt ſome walls this fruit is ripe the beginning of July.

Morocco, or Early Black Damaſk Plum,

3. Morocco, or Early Black Damaſk Plum is a large, round, black Plum powdered with blue. The fleſh is of a yellow colour, juicy, ſomewhat acid, but well-flavoured, parts from the ſtone, and the tree is a good bearer. The fruit is often ripe the early part of July; and being valuable, is better worth raiſing againſt hot-walls than any of them.

Small Black Damaſk,

4. Small Black Damaſk is a ſmall, round, black Plum, powdered with light violet. The fleſh is full of a ſweet juice, parts from the ſtone, and the fruit is in eating about the middle of July. This bears extremely well in a ſtandard; but then the fruit will be a fortnight or three weeks later before it is ripe.

and Violet Damaſk Plum deſcribed.

5. Violet Damaſk is a large, roundiſh, oval Plum, of a dark-blue or violet colour. The fleſh is yellow, parts from the ſtone, is replete with a rich ſaccharine juice, and is ripe by the middle or end of July.

Italian Damaſk,

6. Italian Damaſk. This is often confounded with the preceding, to which it has a great reſemblance; but it is rounder, and comes in later. The ſkin is of a black colour, elegantly powdered with blue. The fleſh is yellow, parts from the ſtone, is full of a rich ſweet juice, and is ripe early in Auguſt.

Tours Damaſk,

7. Tours Damaſk. This has alſo paſſed for the two former ſorts, and they alſo have been taken for this; but the tree ſhoots ſtronger, the young branches are of a red colour, powdered with white, and it is a better bearer. The fruit is round, of a deep-violet elegantly powdered with a lighter blue. The fleſh is yellow, parts from the ſtone, is juicy and delicious, and in ſome ſituations is ripe before the two former ſorts, in others a week later.

Amber,

8. Amber is a ſmalliſh Plum, of an amber colour. The fleſh is ſoft, juicy, ſweet, adheres to the ſtone, and the Plum is ripe the end of July or early in Auguſt. There are three or four different ſorts of theſe Plums, which go by the name of the Amber.

Mirabelle,

9. Mirabelle is ſmall, round, and of a whitiſh-yellow colour on the outſide. The fleſh is of a bright-yellow colour, of a delicious ſweetneſs, parts from the ſtone, and the Plum is ripe the middle of Auguſt.

Le Royal,

10. Le Royal is a moderately large Plum, of an elegant red colour, covered with a whitiſh bloom. The fleſh adheres to the ſtone, is of an exquiſite fine flavour, and is in eating the end of Auguſt.

Fotheringham,

11. Fotheringham Plum is one of the largeſt kinds of Plums, long, and of a beautiful red colour. The fleſh is very firm, and full of a ſweet, delicious juice; it quits the ſtone, and the Plum is ripe by the end of Auguſt, or early in September.

Orleans,

12. Orleans is a large round Plum, of a red colour facing the ſun, and greeniſh on the oppoſite ſide. The fleſh is firm, quits the ſtone, and is full of an agreeable acid juice. It is ripe the end of Auguſt, ſometimes earlier, and in ſome ſituations not before September.

The tree is a great bearer, and is to the Kitchen Gardener one of the moſt uſeful and profitable Plums upon the liſt.

Black Perdigron,

13. Black Perdigron is of the middle-ſize, oval, and of a black colour duſted with a violet-bloom. The fleſh is firm, and full of a delicious juice; and the Plum is in eating about the end of Auguſt; but the tree is a bad bearer.

Blue Perdigron,

14. Blue Perdigron is moderately large, oblong, of a blue colour, and finely powdered on the outſide. The fleſh is of a yellow colour, and full of a rich ſaccharine juice. It ripens the end of Auguſt; but the tree is ſo bad a bearer, that it is not worth planting, though the fruit is reckoned one of the beſt of the Plum kind. I planted one of theſe trees againſt a good weſt wall, and in the courſe of ſeven years could not obtain more than three Plums, though the tree was every ſpring white with bloſſoms, like the other ſorts.

White Perdigron,

15. White Perdigron is a Plum of the middle-ſize, oblong, and of a whitiſh-yellow colour. The fleſh is a deep yellow, firm, juicy, and very rich. It ripens the end of Auguſt, and the tree is a bad bearer. This tree has frequently afforded a dozen or fourteen Plums in a year, but never more, though the bloſſoms in the ſpring ſeemed as numerous as on any other.

Red Queen Mother,

16. Red Queen Mother is ſmall, round, and of a fine pale-red colour. The fleſh is of a beautiful yellow, replete with a pleaſant juice, adheres to the ſtone, and is ripe the beginning of September.

White Queen Mother,

17. White Queen Mother is round, ſmall, and tho' called White is of a bright-yellow colour, tinged with red on the ſide facing the ſun. The fleſh is of a fine yellow colour, full of a delicious juice, adheres to the ſtone, and the Plum is ripe the beginning of September.

Roche-Courbon or Red Diaper Plum,

18. Roche-Courbon, or Red Diaper, is a middle-ſized, round Plum, of a beautiful red colour, ſlightly duſted with a blueiſh bloom. The fleſh is firm, ſweet, and luſcious, and is ripe the beginning or middle of September.

Green Gage,

19. Green Gage Plum is a middle-ſized, round Plum, of a yellowiſh green colour when ripe. The fleſh is ſoft, the juice of a delicious ſweetneſs, and of ſuch exquiſite flavour that it is juſtly deemed the beſt Plum in England. Add to this, the tree is very hardy, is an admirable bearer, and may be made to ſerve any purpoſe, either againſt a wall, or as an eſpalier, dwarf or ſtandard. The fruit is ripe the beginning and middle of September.

Blue Gage,

20. Blue Gage is a roundiſh Plum of the middle-ſize, of a blueiſh colour, ſlightly powdered with bloom. The fleſh is of a yellow colour, ſoft, full of a rich delicious juice, and is ripe about the middle of September.

Cloth of Gold Plum,

21. Cloth of Gold Plum, or Drap d'Or, is of a round figure, rather of the ſmaller kind, and of a bright-yellow colour, ſpotted with red. The fleſh is ſoft, yellow, adheres to the ſtone, is replete with a rich, vinous juice, and is ripe the beginning of September, or earlier againſt a good wall. This bears ſparingly on ſtandards, but produces plenty of fruit when trained to a wall.

White Matchleſs,

22. White Matchleſs is a ſmall, oblong fruit, of a yellowiſh-white colour, frequently ſpotted with yellow and browniſh ſpots. The fleſh is firm, whitiſh, parts from the ſtone, has an exquiſite flavour, and is ripe the beginning or middle of September.

Old Apricot Plum,

23. Old Apricot Plum is a large, round, yellowiſh Plum. The fleſh is yellow, ſoft, juicy, and agreeable. This tree is a great bearer, and the fruit is ripe in the beginning or middle of September.

New Apricot Plum,

24. New Apricot Plum is large, round, of a white colour, tinged with red on the ſide next the ſun. The fleſh is firm, the juice ſweet and pleaſant, and the fruit is ripe about the ſame time with the former.

Cheſton Plum,

25. Cheſton Plum is a round Plum of the middle-ſize, almoſt of a black colour, elegantly duſted with a light violet bloom. The fleſh is of a dark-yellow colour, and full of a ſweet, agreeable juice, and is ripe the middle of September. This does well in a ſtandard.

Brignole,

26. Brignole is an oval Plum, of the larger ſize; the colour is yellow on the outſide, having a mixture of red or brown on the ſide facing the ſun. The fleſh is firm, of a bright-yellow colour, not very juicy, but agreeable to the taſte, and is ripe the early part of September. This Plum is in great eſteem for ſweet-meats.

Verdock,

27. Verdock is rather of an oblong figure, and of the middle-ſize. The ſkin is of an olive colour, ſlightly powdered with a white bloom. The fleſh is firm, yellow, adheres to the ſtone, is full of juice, of an agreeable flavour, and the Plum ripens the early part of September.

Mangeron,

28. Mangeron is a round Plum of the middle-

ſize. The ſkin is of a dark-brown or black colour, finely duſted with a light blue bloom. The fleſh is firm, of a bright-yellow colour, and parts from the ſtone; it is not very juicy, but agreeable to the taſte, and is ripe about the middle of September. This Plum is in great eſteem for ſweet-meats.

Red Spaniſh Damaſk, 29. Red Spaniſh Damaſk is a round Plum of the middle-ſize, the ſkin being red, powdered with white bloom. The fleſh is firm, parts from the ſtone, and is not very juicy, but of a rich, agreeable flavour; and the Plum is ripe about the middle of September.

Little Green Damaſk, 30. Little Green Damaſk is a ſmall, roundiſh Plum, of a green colour, powdered with white. The fleſh alſo is green, adheres to the ſtone, and is of a delicious flavour; it ripens the middle or latter end of September. This Plum is in general eſteem for ſweet-meats.

Violet Plum, 31. Violet Plum is a middle-ſized, oval Plum, of a fine violet colour on the outſide, powdered with a blue bloom. The fleſh is yellow, juicy, and agreeable; and the tree being a great bearer, is in great requeſt with the Kitchen Gardeners, who raiſe the fruit for ſale.

Wentworth Plum, 32. Wentworth Plum is oval, and of the larger ſize; and the ſkin is yellow, often ſpotted with brown or reddiſh ſpots. The fleſh is firm, and parts from the ſtone; but the juice being ſomewhat ſour and uncorrected, the Plum is in little eſteem, unleſs for culinary purpoſes; all which it ſerves with good reputation.

Red Bonum Magnum, 33. Red Bonum Magnum. This is called the Imperial Plum, though it differs from another kind called the Old Imperial Plum. The Plum is very large, oblong, and the ſkin is of a dark-red colour when ripe. The fleſh is yellow, ſoft, and juicy, but of moderate reliſh; the tree is a good bearer, and the fruit is ripe the early part of September.

White Bonum Magnum, 34. White Bonum Magnum. This is called the White Imperial, and is one of the largeſt Plums we have in England. Its figure is oblong, and its colour yellow, covered with a white bloom. The fleſh is ſoft, adheres to the ſtone, and is juicy, but not well-flavoured; ſo that it is chiefly uſed for preſerving, and culinary purpoſes. This tree is a good bearer, and the fruit is ripe about the middle of September.

Great Queen Claude, 35. Great Queen Claude is a round Plum of the middle-ſize, and a yellowiſh-green colour when ripe. The fleſh is firm, quits the ſtone, is juicy, of a delicious flavour, and of a deep-green colour. The tree is a good bearer, and the fruit is ripe the middle of September.

Little Queen Claude, 36. Little Queen Claude is a ſmall, round Plum, having a whitiſh ſkin, frequently ſpotted with red or brown ſpots. The fleſh is firm, quits the ſtone, is juicy, ſweet, and of exquiſite flavour; the tree is a good bearer, and the fruit is ripe the beginning or middle of September.

St. Catharine, 37. St. Catharine is a large, oblong, pear-ſhaped Plum, of a yellow colour, covered with a white bloom when ripe. The fleſh is firm, of a bright-yellow colour, adheres to the ſtone, and poſſeſſes a ſweetiſh, agreeable juice. The tree is a good bearer, and the fruit is ripe by the middle or latter end of September, and is much coveted for ſweet-meats.

St. Julian, 38. St. Julian is a ſmall, round Plum, of a dark-violet colour, covered with a white bloom. The fleſh is firm, adheres to the ſtone, and has ſo little flavour, that it is ſeldom brought to the table; but it is excellent for preſerving. It ripens the end of September, and, if not gathered then, will dry upon the tree.

Pear Plum, 39. Pear Plum is an oval Plum of the middle-ſize, and of a whitiſh-yellow colour when ripe. The fleſh is yellow, and of no good flavour; ſo that the Plum is chiefly uſed for preſerving.

Imperatrice, 40. Imperatrice is an oblong Plum, of the middle-ſize, and of a dark-red colour when ripe. The fleſh is firm, of a deep yellow colour, and cleaves to the ſtone; it is not very juicy, but nevertheleſs ſweet and agreeable. The tree bears well, and the fruit is ripe the beginning of October, and is uſed for drying. The fruit, if neglected to be gathered, and the weather proves fine, will dry upon the tree, and then becomes admirably ſweet and delicious.

and York Wine Sour Plum deſcribed. 41. York Wine Sour is an oblong Plum, ſomewhat bigger than a Damaſcene, and of a dark-violet, or black colour when ripe. The fleſh is yellow, juicy, cleaves to the ſtone, and has an agreeable acid taſte. The Plum is ripe in October, and is eſteemed one of the beſt Plums for preſerving yet known. To theſe many other curious Plums may be added; but they would only tend to cauſe confuſion in the Liſt: And to theſe may be alſo added the Muſcle Plum, Wheaten Plum, Damaſcene, Bullace, and the numerous train of Common Plums, which occupy the orchards of farmers and country people. But theſe are too well known to need deſcription, and their uſes in pies, puddings, &c. as well as being eatable fruit among the Peaſants, are ſo often experienced, that they would even laugh at any body who ſhould want to be inſtructed in the nature of them.

Many of theſe think the Muſcle Plum the fineſt Plum in the world; others contend for the Wheaten Plum; and no inconſiderable ſhare for the Damaſcene and White Bullace. The ſorts are truly valuable in themſelves, and would be deemed ſo, were there not better of different kinds; for they have an excellency which many of the tender ſorts do not poſſeſs. They are extremely hardy, great bearers, grow well in the corners of orchards, hedge-rows, &c. and ſeem in every reſpect adapted by Nature to ſerve the purpoſes of Plum-fruit among the Common People.

The above liſt contains a variety of the beſt Plums for thoſe who are curious in their collection of fruit. Many of them are indeed hardy, and will grow and bear well in ſtandards and other ſituations; but they are generally trained up againſt walls, or eſpaliers; and the good management of them is ſeldom obſerved, except in the gardens of gentlemen of property and taſte.

Culture: By Grafting; Plums of all ſorts are raiſed by grafting, budding, or by layers. For the two firſt purpoſes ſtocks ſhould be raiſed from the ſtones of any of the ſorts ſown in the autumn ſoon after they are ripe. The ſame method as in raiſing ſtocks for Apricots, in the preceding Chapter, muſt be obſerved for theſe; and if they are treated in a ſimilar manner, they will be fit for tranſplanting into the Nurſery the autumn following. The rows ſhould be two feet aſunder; and the diſtance they ſhould be at in the rows ſhould be one foot. The uſual care of keeping the ground clean from weeds the ſucceeding ſummer ſhould be obſerved, and the ground between the rows muſt be dug in the autumn, and many of the ſtocks will be fit for grafting the ſpring following. The grafting ſhould be performed in the uſual way; and the beſt ſeaſon is the end of January, and early part of February. In the ſpring, after the grafts have joined the ſtocks, and commenced a good growing ſtate, the clay ſhould be taken off, and a few days after that the baſs matting; and if any ſhoots from the ſtocks ariſe, they ſhould be conſtantly rubbed off; otherwiſe they will rob the graft of its nouriſhment, will weaken it, and if left unmoleſted, finally deſtroy it. From this time the grafts muſt be trained up for the purpoſes wanted. If for ſtandards, or half-ſtandards, they ſhould be trained up to a ſingle ſhoot, to be headed at any required height; if for walls or eſpaliers, two ſhoots from each ſide of the graft ſhould be permitted to grow. The autumn following the dwarfs of all kinds will be fit to be tranſplanted to their final deſtination; but thoſe which are deſigned for ſtandards or half-ſtandards, ſhould be permitted to remain longer in the Nurſery, to become ſtronger plants, and form proper heads, before they are planted out for good.

by Budding; The budding is performed in the uſual way; and the beſt time for this work is the middle of Auguſt. When the buds have joined the ſtocks, which will be in three or four weeks, the bandage ſhould be taken off, and the ground between the rows ſhould be dug in the autumn. In the ſpring, the ſtocks ſhould be cut off two or three inches above the buds, and the buds will ſoon burſt forth from their habitations. All ſide-ſhoots ariſing from the ſtocks muſt be carefully rubbed off all ſummer; and in the autumn, the trees being of one year's growth, will be proper to be placed out for dwarfs, eſpaliers, or againſt walls; but thoſe deſigned for ſtandards, and half-ſtandards, ſhould be left longer in the Nurſery, to be trained to be proper plants for the purpoſe.

and by Layers. By layers alſo Plum-trees are encreaſed. This operation ſhould be performed on the young ſhoots in autumn. A ſlit, as is practiſed for Carnations, is the beſt way of layering them; and if the ground is ſtubborn, a ſufficient quantity of rich, light ſoil ſhould be brought to lay them in, or elſe a quantity of drift ſoil mixed with the common mould, to deſtroy the binding property; otherwiſe the parts will only ſwell, and be two years before they ſtrike root. If theſe precautions reſpecting the ſoil be obſerved, and the layers are duly watered in dry weather all ſummer, they will have ſtruck root by the autumn, when they ſhould be taken off, and planted in Nurſery-lines, there to be trained up for the purpoſes wanted. This is a tedious way of raiſing Plum-trees, and is a leſs eligible method to be practiſed than grafting or budding, eſpecially if any conſiderable quantity is wanted; tho' by this method you will be ſure of the ſort you are propagating: And when the other methods are practiſed for raiſing theſe trees in great quantities for ſale, the ſtricteſt care ſhould be taken to book the ſorts, and ſpecify the rows in which they are planted. Cuttings alſo ſhould be taken from no tree before it has bore, and demonſtrated itſelf to be the true expected kind. Errors of this kind are leſs to be apprehended from Plums than any other ſort of fruit, becauſe experienced Nurſerymen know moſt of the kinds of Plums in the winter by the wood or young ſhoots of the preceding ſummer's growth.

When the trees are to be ſet out for good, the border muſt be brought into a proper condition for receiving them; that is, if it be very wet and heavy, it ſhould be taken out two feet deep, and a ſtratum of rubbiſh laid at the bottom; then a mixture of drift ſand and coal-aſhes muſt be added, ſufficient to raiſe it eight inches above the level. It will then be a very good border for the reception of Plum-trees of all kinds; though if it be naturally neither too moiſt nor too dry, it will be the better; and if it be very ſandy, dry, and of a hot nature, a ſufficient quantity of pond-mud, marl, and the like, ſhould be brought, to cauſe it to become more tenacious, and better adapted to the growth of trees, as well as to enſure them from a ſpecies of fly, which generally attack Plum-trees in great plenty on very dry, ſandy ſoils, damage the trees, and render the fruit good for nothing.

A South-eaſt or South-weſt aſpect is good for Plums, and the walls ſhould be of the higheſt kinds; though they may be planted againſt low walls, and their branches extended to a very great width.

The ſeaſon for planting out Plum-trees is any time in the autumn, winter, or ſpring. They are to be ſet in the uſual manner, at about eighteen feet aſunder; though if the walls be low, and the branches are deſigned to occupy a greater breadth, they muſt be ſet proportionably at a greater diſtance; and when they are ſet, ſhould be headed down to within four eyes of the bud, leaving two on each ſide, and rubbing off all others that are on the front or back-part of the ſhoot. As the tree grows in the ſummer, the branches ſhould be trained horizontally to the wall; and the winter following they need not be ſhortened, but be ſuffered to extend themſelves along the wall as faſt as they are able. The branches ſhould be placed at equal diſtances, and one ſide of the tree ſhould be as equal to the other as may be; and the management ſhould be the ſame as for the Apricot-tree, tho' the ſhoots ſhould not be ſhortened, unleſs when wood is wanted to fill up a vacant part of the wall. Thus, by extending the branches every way without ſhortening, they will ſoon occupy a large ſpace of walling; they will be leſs crowded with wood, and more tractable; the fruit will be larger, fairer, and better-flavoured than when, by the injudicious uſe of the knife, the branches are multiplied, and the trees gum, or become cankered; which is generally the conſequence to moſt trees through much amputation.

When the trees are planted in eſpaliers, the ſame laws with reſpect to pruning are to be obſerved. The branches are to be trained horizontally in the ſame manner; the tree is to be kept as equal as may be on both ſides; — a neceſſary precaution to have the fruit equally fair and good. Plums, like Apricots, are produced on ſpurs from the older wood as well as younger branches. Theſe ſpurs, therefore, are not to be cut off, as too many ignorantly do to make their tree appear handſome, little knowing that by this practice they are deſtroying the beſt bearing parts of the tree.

When Plum trees are ſet out in ſtandards, their heads muſt be reduced ſo that they may bear an equal proportion to the root; and they ſhould not be planted below the ſurface of the mould; the crown of the root ſhould be rather above it, and a bank raiſed round each tree for its ſupport. Becauſe if the tree is planted deep, and eſpecially if the ſoil is wet, it will ſhoot luxuriantly at firſt; but the bearing wood will become moſſy, and by degrees go off; ſo that from ſuch trees little fruit may be expected, and that ſmall, ill-ripened, and of no tolerable good flavour.

The after-pruning of ſtandard Plum-trees is eaſily performed; the taking off ſuch branches as croſs each other, judiciouſly taking out ſuch parts of the tree where it is over-crowded, and ſuch as are cankered, or in a decaying ſtate; being all the trouble they require.

Standard Plum-trees are ſeldom planted in any great quantity together; more than a few on the outſkirts of the orchard being rarely found. At this one may rather wonder; as they are ready ſale in the market; the trees are in general as good, or better bearers than Cherries; the ſucceſſion may be kept up longer; the charge of gathering them is leſs; and the profits no ways inferior to that celebrated fruit; which conſtitutes whole orchards of very great extent, and which is raiſed in ſuch amazing plenty in moſt parts of England for ſale.

C H A P. XIV.

PRUNUS CERASUS, The CHERRY TREE.

THE Cherry is one of the moſt delightful, inoffenſive, and moſt generally beloved fruits in the world; and the tree ſports much in varieties, and exhibits the fruit in different ſhapes, qualities, and flavours, for the regale of all who are fond of fruit; inſomuch that we have, beſides the Wildings of our woods and hedges, the following diſtinct valuable ſorts:

Species.

1. The Little May Cherry.
2. The Common May Duke Cherry.
3. Harriſon's Duke Cherry.
4. Holman's Duke Cherry.
5. Arch Duke Cherry.
6. Late Duke Cherry.
7. The Common Red, or Kentiſh Cherry.
8. The White Heart.
9. The Red Heart.
10. The Black Heart.
11. The Purple Heart.
12. The Amber Heart.
13. The Ox Heart.
14. The Heart Lip.
15. The Bleeding Heart.
16. The Hertfordſhire Heart.
17. The Late Heart.
18. The Churchill.
19. The Lukeward.
20. The Yellow Spaniſh.
21. The Corone, or Coronne.
22. The Morello.

To theſe might be added the numerous train of Wild Northern Cherries, Black Cherries, Honey Reds, Bitter Reds, &c. which are all valuable Cherries, and would be thought worthy of the beſt culture, were there no other.

The Little May Duke,

1. The Little May Duke Cherry is a ſmall, round, red Cherry, pulpy, and full of a quick, agreeable juice; but, notwithſtanding, is valued by the generality of people only on account of its ripening early, which happens the end of May, or early in June. The ſhoots of this tree are ſlender, and the leaves ſmall; and, in order to have the fruit early, the beſt aſpect in a rich dry ſoil ſhould be allowed it.

Common May Duke,

2. Common May Duke Cherry is too well known to need any deſcription, and conſtitutes a large ſhare of our ſaleable Cherries; and as the tree is large, hardy, and a great bearer, and the fruit generally ſold at a higher rate than the Flemiſh or Kentiſh Cherries, it is deſerving of being planted plentifully in orchards where this fruit is raiſed for profit.

Harriſon's Duke,

3. Harriſon's Duke Cherry. The tree is large; and the branches are erect, firm, and hardy. The leaves are large, long, ſerrated, and of a bluiſh-green colour. The fruit is moderately large, full of a ſweet, juicy pulp, red at firſt, but almoſt of a black colour when dead ripe.

Holman's Duke,

4. Holman's Duke Cherry. The tree is large, and the branches are more ſpreading than the Common Duke. The fruit is larger than the Common Duke, better-flavoured, and comes into eating about a fortnight or three weeks later; but the tree is not ſo good a bearer.

Arch Duke,

5. Arch Duke. This tree is large, and ſends forth ſeveral erect, ſtrong, hardy branches, in the manner of the Common ſort. The fruit is produced in the ſame manner, but is larger, and finer to the eye, tho' no better taſted, and comes in a fortnight or three weeks after.

Late Duke,

6. Late Duke is valued only for coming in late. It is of the middle ſize, poſſeſſed of the ſweet agreeable flavour of the other Dukes, and comes in near a month after the firſt ſort; which makes it grateful to thoſe who prefer Duke Cherries before any others.

The Kentiſh,

7. The Kentiſh Cherry. The branches are numerous, ſlender, and ſpreading. The flowers appear late in the ſpring, and are generally ſucceeded by a large quantity of fruit, which cauſes this tree to be more propagated in the Cherry Orchards than any other ſorts; for, notwithſtanding the fruit generally bears the loweſt price of any of them, yet the being pretty ſure of a good crop cauſes its culture to become moſt general. It is commonly reckoned an indifferent Cherry, being ſaid to be too ſour and ill-reliſhed for moſt palates; but this is entirely owing to its being gathered too early. When it becomes red, it is gathered as faſt as poſſible, and brought to the market for ſale; whereas it ſhould remain on the tree until nearly black: For theſe Cherries, when ripe, are of a very dark red, or black colour; and when they have commenced that ſtate, and not before, they are in proper eating, and are then one of the beſt fruit in the world. Gentlemen, therefore, who are fond of theſe Cherries ſhould give them a good aſpect, and let them hang until they are perfectly ripe; which cannot be expected in Cherry-Orchards, where the owner's whole livelihood, perhaps, depends upon the ſale of the fruit; becauſe, if much wet ſhould happen ſoon after they become red, they will rot upon the trees, and the crop be ſoon deſtroyed; for which reaſon no time is loſt in gathering and ſelling them off as ſoon as they have acquired a ſufficient ripeneſs to render them any ways eatable. It is ſuppoſed that this is the original Cherry, and that all the other valuable kinds proceed from it.

White Heart,

8. White Heart is a prodigious large, fine ſpreading tree. The fruit is rather below the

middle ſize, of a whitiſh colour, tinged with red on the ſide next the ſun, and is ſhaped like a heart. The fleſh is juicy, and of ſuch exquiſite delicious flavour, that it is, in my opinion, the beſt Cherry in the world; though the ſtone is large, and the eatable part proportionably leſs; for which reaſons many prefer others to it.

Red Heart,

9. Red Heart is ſomewhat larger than the former, is ſhaped like a heart, and of a red colour when ripe. The fleſh is ſoft, juicy, and of a delicious richneſs; and the tree deſerves culture in all places where there is conveniency.

Black Heart,

10. Black Heart is a well-known fruit, and the tree is a better bearer than any of the other ſorts. The fruit is larger than the White Heart, and of a very dark-red or black colour when ripe. The pulp is ſweet, juicy, and delicious; and the tree being hardy, and a good bearer, is as deſerving of propagation as any other of the Cherry tribe.

Purple Heart,

11. Purple Heart. The name tells you, that it is a Cherry in ſhape of a heart, and of a purple colour when ripe. Its ſize is about that of the Black Heart; and its pulp tender, juicy, and of ſuch delicious flavour, that one can hardly tell which to prefer before the other.

Amber Heart,

12. Amber Heart is a middle-ſized Heart Cherry, of an amber colour, and a delicious flavour; and the tree being hardy, and a good bearer, a conſiderable ſhare of this ſort ſhould be found in every orchard of Cherry-trees.

Ox Heart,

13. The Ox Heart is a much larger Heart Cherry than any of the other ſorts. It is a ſweet delicious fruit, but comes late, and the tree is a bad bearer.

Heart Lip,

14. Heart Lip is a large Cherry, firm, ſweet, and luſcious. It is ſhaped like a heart, but is uſually indented, or obtuſely divided into two parts at the top. The tree is a moderately good bearer; and the fruit is ranked among the beſt kind of Hearts, and is in eating about the middle of the Cherry ſeaſon.

Bleeding Heart,

15. Bleeding Heart is a large, oblong, heart-ſhaped Cherry, of a dark red colour when ripe. The juice is of inferior richneſs to many of the other ſorts; though, from the tree being a bad bearer, and the fruit large and beautiful to the eye, it is often ſold at more than a ſhilling a pound.

Hertfordſhire Heart,

16. Hertfordſhire Heart is a firm, well-flavoured Heart Cherry, of the middle ſize. The tree is a much better bearer than the former ſorts; and coming into perfection when the Common Hearts are over, is very proper to keep up the ſucceſſion until comes in,—

The Late Heart,

17. The Late Heart. This is a pretty large Heart Cherry, nearly of the colour of the White Heart. The fleſh is firm, and often breaks or cracks upon the tree; it is not very juicy, yet ſweet and delicious, and ripens a month or later after the White and Black Hearts.

The Churchill,

18. The Churchill. This is a large, pulpy Cherry of the Heart kind; the colour is of a whitiſh yellow, tinged or ſpotted with red on the part next the ſun. The fleſh is tender, full of a delicious juice, and in ſome ſituations is ripe before any of the Hearts.

The Lukeward,

19. The Lukeward is a middle-ſized fruit, of a dark brown, or black colour, and full of a ſweet, agreeable juice. The tree is a good bearer, ſucceeds well in orchards, and the fruit comes to perfection among the later kinds of Cherries.

20. Yellow Spaniſh. The figure of this fruit is oval, and of a yellow or amber colour when ripe. The juice is ſweet, but not of ſuch heightened flavour as many of the preceding ſorts; and the tree being but an indifferent bearer, is as little propagated as any of the kinds.

Corone,

21. Corone is a large, roundiſh, black Cherry, full of a ſweet, luſcious juice. The tree is a good bearer; and the fruit being in general eſteem, and coming in when the early ſorts are paſt, a large ſhare of this ſort ſhould be found in every Cherry Orchard of any conſiderable extent.

and Morello Cherry deſcribed.

22. Morello is a prodigious large, round, fair, and beautiful fruit, of a dark red colour. The fleſh is tender, red, juicy, and in ſome ſituations is ſour and ill-reliſhed; in others heightened to a degree of richneſs beyond moſt other kinds of Cherries. This Cherry is loſt to the table, through its being conſtantly recommended to be planted againſt North walls, where the tree produces nothing but large ſour fruit, fit only for Kitchen uſe; whereas its ſituation ſhould be in a dry, warm ſoil, againſt a ſouth, or ſouth-eaſt wall. It then ripens early; the juices are corrected by the warmth of the ſun and ſituation; a rich and delicious ſweetneſs is blended with the agreeable acid; its colour is black; and it is then one of the beſt eating Cherries we have.

There is only one good way of raiſing Cherry-trees, and that is by grafting them on ſtocks of the Common Black Cherry; for although they will grow by budding, yet budded Cherry-trees gum, canker, and ſoon come to nothing.

Culture by Grafting.

To raiſe a ſtock of Cherry-trees, therefore, for the various purpoſes of Gardening, let a ſufficient quantity of Black Cherry-ſtones be ſown in the Seminary ſoon after they are ripe. They muſt be ſown thinly in the beds, covered over with two inches depth of the fineſt mould, and during the autumn be kept clean from weeds. In the ſpring the plants will come up; and, if the weather ſhould prove dry, ſhould be refreſhed with water; and a repetition of this, together with weeding as often as it ſhall prove neceſſary, muſt be obſerved all ſummer. In the autumn the ſtocks will be fit to ſet out in the Nurſery. The ground for their reception ſhould be double-dug, and neither too moiſt nor too dry; and the plants ſhould be ſet in rows, a foot aſunder, with an interval of two feet diſtance between row and row. At the time of planting, the roots ſhould be ſhortened, but not the head, which ſhould be taught to direct its courſe upwards in one undivided ſhoot. All ſummer the ground muſt be kept clean from weeds; in the winter the ground between the rows muſt be dug, and all ſtrong, lateral branches muſt be taken off; and a repetition of theſe particulars, ſummer and winter, muſt be obſerved until the ſtocks are ſtrong enough to receive the graft ſix feet from the ground. The upper part of the ſtock to receive the graft need not be thicker than a large gooſe's quill, or the graft itſelf: So that when the ſtocks are grown to about ſeven or eight feet high, they will be moſt perfect for the operation, which ought to be performed in January, or not later than the firſt week in February; though in ſome parts it is done with tolerable ſucceſs the latter end of that month.

The proceeding of the operation is natural and eaſy; and the uſual laws of grafting and barking the ſorts are ſtrictly to be obſerved. The clay, and baſs-ſtrings cut into proper lengths, muſt be in readineſs; and the grafts muſt be in a diſh, cut into proper lengths, for the better diſpatch; then a perſon going before along each row, cuts off the tops of the ſtocks, leaving them all of equal height, ſix feet from the ground. The grafter goes next, and bending down the ſtock under his left arm, ſlopes the end with his knife, inſerts the graft, and binds it faſt with the baſs-ſtrings; and the next man clays it. The reader need not be told that whip-grafting is the practice; but he ſhould be reminded, that the ſlope ſhould be deep, three inches at leaſt, cut true, and at one ſtroke; the graft ſhould be made to occupy the whole ſpace; the tongues ſhould be acute, binding to each other, and the bark no ways mangled; and the niceſt art of whip-grafting on the Cherry-trees obſerved. It is on the nice performance of this art that the future ſucceſs of the Cherry-tree in a great meaſure depends; but when it is ill done, or the tree is raiſed by budding, it ſoon gums, cankers, blights, the ſmother-fly poſſeſſes every part of it, and thus, borne down with infirmity, weakneſs and diſeaſe, death enſues, and the expectation of the ſurviving owner is ſadly deſtroyed. When trees are wanted for half-ſtandards, they ſhould be grafted four feet above the ground, or any height that is wanted. When trees are wanted for dwarfs, they ſhould be grafted near the ground, in the ſame manner, a year or two earlier; and it is much eaſier to raiſe dwarf Cherry-trees than ſtandards; becauſe the ſtocks that are deſigned for ſtandards, when they get nearly high enough, are generally infeſted by the ſmother-fly in the ſummer; the leaves are curled in, the leading ſhoots are ſtopt, the juices are contaminated, and the whole rendered unfit for the operation. This happens leaſt in the nurſeries about London; the ſtocks in general are ſhort, vigorous, and unmoleſted to perfection; for which reaſon the beſt ſtandard Cherry-trees are in general procured from thence; but in the Country the ſtocks are uſually more or leſs injured by the ſmother-fly; inſomuch that I have raiſed large quarters of many thouſands of ſtocks to come in one after another, yearly, each in their regular ſucceſſion, and I do not remember more than two quarters (that is, there were not more than two ſummers) in which the full grown ſtocks were not injured; but the ſmall ſtocks hardly ever were hurt, the ſmother-fly ſeldom taking them before they were four, five, or ſix feet high.

Hitherto we have ſuppoſed the grafting to be performed on ſtocks of the Black Cherry-tree. Theſe are for general or common uſe; but if the trees are wanted for forcing, they ſhould be grafted on ſtocks of the Bird Cherry tree; plenty of which may be eaſily raiſed from cuttings. Cherry-trees are alſo grafted on Laurel-ſtocks, to which they readily unite; and on theſe ſtocks I have had them grow more than three feet in one year from the graft: But this is only for whim, and to create ſurprize in the ignorant, who always expreſs their aſtoniſhment at ſeeing the Laurel grow from the lower part of a Cherry-tree. Theſe ſtocks are ſaid to communicate to the fruit an agreeable bitter; but I have eat it for many years at different times of the day, faſting, and when it has been in different degrees of ripeneſs; and I could never obſerve it poſſeſſed the bitter flavour ſo much talked of by old writers. The only difference I could obſerve in the fruit was, it was always ſmaller, and ſomewhat firmer. When theſe trees are raiſed on Laurel-ſtocks, it is cuſtomary to let a little of the Laurel grow from the ſtock, to ſhew its foundation; otherwiſe the curioſity will be loſt: But the Gardener muſt let as little of this be there as may be; otherwiſe it will rob the tree of its nouriſhment, and ſoon deſtroy it; which may be one reaſon why they are generally ſaid to be ſhort-lived trees on Laurel-ſtocks. The cultivated Cherry is far from being a long-lived tree on any ſtock, unleſs in ſome extraordinary ſuitable ſituation. But as it unites as readily to the Laurel as the Black Cherry, and riſes the ſummer following with a ſtrong ſhoot, there is reaſon to expect its continuance for many years; nay, I have experienced their being healthy and bearing much fruit every year for upwards of ten years; but then the ſtocks have been always kept free from ſuckers, and a proper culture afforded the ground in which they were ſtationed.

But to return to our plantations for general uſe. We have grafted them; and we may now ſuppoſe the ſpring advances, and that they have made ſome pretty good ſhoots. When you find this is effected, which will be by the end of May, or the beginning of June, the clay muſt be taken off, and the bands muſt be looſened; otherwiſe the parts will be too confined, and, becoming weak thro' too much confinement, will be broken by the winds. The bandages, therefore, muſt be looſened, to give the ſap room to move freely; but they muſt not be wholly taken away, and freſh clay ſhould be added. This looſening of the bandage, and claying the parts afreſh, ſhould be repeated once more, about the middle or end of July; and then no more need be done to it, except rubbing off ſide-ſhoots from the ſtocks as they ſhall ariſe, until the autumn; when both clay and ſtrings ſhould be finally taken away, and the trees will be moſt perfect for planting out either againſt walls or as ſtandards in the different parts of the garden.

Of the Management of Wall Cherry-Trees.

And firſt, let us ſtock our wall and eſpaliers with Cherry-trees. For this a proper aſſortment of dwarfs and ſtandards muſt be had. The walls for the early ſorts ſhould be ſouth, or ſouth-eaſt; and the dwarfs ſhould be planted twenty feet from each other. If the walls are high, a ſtandard Cherry-tree ſhould be ſtationed in the midway between each dwarf, that the top of the wall, as well as the bottom, may remain unactive as little a time as may be; but if the walls are rather low, half-ſtandards, inſtead of ſtandards, ſhould be uſed for that purpoſe. All the ſorts of Cherry-trees may be planted againſt the walls; but the Dukes are better bearers than the Hearts, and moſt of the other kinds; and when you deſire to have them early, the Little May and earlieſt kinds of Dukes ſhould have the warmeſt and beſt places. The ſouth, or ſouth-eaſt aſpect is recommended for Cherries, as being moſt favourable to that kind of fruit, by bringing it on earlier, and rendering it better taſted; but they thrive extremely well againſt cold walls, and even fronting the north: So that a perſon need not be diſcouraged from planting theſe trees, let his ſituation be what it will; only he muſt obſerve, if they are planted in thoſe unfavourable aſpects, that there will be a great chance of the bloſſoms being deſtroyed in the ſpring; and when that does not happen, the fruit will be later ripe, and not ſo well taſted, but it will be better for preſerving. And where much fruit of this kind is wanted for culinary purpoſes, the Morellos ſhould always bear the greateſt ſhare againſt the north walls. The trees may be planted any time in the autumn, winter, or ſpring; though the firſt is moſt eligible: And having ſtored our walls with proper trees at the above diſtances, the beginning of April, the ſhoots ſhould be ſhortened according to their ſtrength, and nailed againſt the wall. A good ſtrong ſhoot ſhould be left with ſix eyes, three on each ſide, but a weak one with not more than four eyes, two on each ſide; and all the buds on the front and back part of the ſhoots are to be rubbed off. If the weather ſhould prove dry in the ſpring, they ſhould be duly watered, and have ſome inverted turf placed round them to keep them cool; and in the autumn following the branches muſt be trained horizontally, placing them at equal diſtances from each other, to the wall. From this time the branches are not to be ſhortened, but the tree is to be permitted to fill the wall as faſt as may be; and whenever a vacancy happens, a ſtrong branch is to be ſhortened, in order to throw out more ſhoots to fill up the parts. All fore-right ſhoots which appear ill-placed muſt be pinched off as ſoon as they are produced, but no ſtiff ſpurs, or ſhort, turgid branches ariſing from the old branches, for theſe are bearing-wood; and a due obſervance of theſe particulars is all the neceſſary pruning a Wall Cherry-tree requires. Thoſe who exceed this, go too far, as the health, if not the life of the tree is endangered from every ſtroke of the knife: And when the branches are ſtrained or bruiſed by being brought down to make them ſuit the ſtrange taſte of the owner, the gum enſues, and after that blights and death.

Rules for planting a Cherry Orchard.

Eſpalier-trees are to be managed in the ſame manner: So that I now proceed to the planting of a Cherry Orchard with good ſtandard-trees of this fruit. For this purpoſe a ſuitable ſoil and ſituation ſhould be firſt pitched upon; for without theſe there can be no reaſonable hope of ſucceſs. If the ſoil be gravelly, barren, and dry, the trees will live but a little time, be conſtantly blighted in the ſpring, and devoured by the ſmother-flies in the ſummer; and the little fruit they may chance to produce during their ſhort-lived reſidence, be of very inconſiderable value. If the ſoil be a ſtrong ſtubborn clay, over-moiſt in winter, and binding in ſummer, it is to be rejected, as one of the oppoſite extremes: So that it is a medium between theſe two that is a proper ſoil for a Cherry Orchard; and that is, a rich, fertile paſture, in a well-ſheltered ſituation on all ſides from the ſtrong winds, the earth deep, not over dry nor moiſt, loamy, with a ſlight mixture of ſand; and if it be of a black colour, it will be the beſt; though if the colour be red, yet if poſſeſſed of the above properties, it is ſuch, that you may have reaſonable hopes of finding your Cherry Orchard flouriſhing, and producing plenty of fruit.

The diſtances theſe trees ſhould be from each other are, according to ſome Authors, forty feet; becauſe, ſay they, the ground may be kept in tillage. It is a pity that they have not mentioned what ſort of crop it was to bear; becauſe I know of none of our tillage-crops, by which is generally meant harveſt-crops, that will be ripe before the berries are over. The Cherries ripen in June, and continue in ſucceſſion through July: And as our earlieſt crops of Oats or Barley are rarely ripe before Auguſt, how muſt theſe be ſpoiled by the ſetting of ladders, and trampling of thoſe that are to gather the Cherries. If they mean Garden-ſtuff, I agree with them that the ground may be kept in tillage; and the many walks and intervals between the beds will be ſufficient for walking, ſetting ladders, and ſecuring the produce from injury by the Cherry-pullers. But then the trees have no occaſion to be ſet forty feet aſunder, for ſuch tillage as garden produce will require; neither ought the trees to be allowed much above half that diſtance, if a perſon is deſirous of making moſt of his ground as a Cherry Orchard. For if we conſider, that in the courſe of ten or twelve years many of them will begin to gum, canker, and go off, and that others at intervals will ſucceed them, until the Cherry Orchard is totally ended; which will probably be in ſixty or ſeventy years, we muſt know that twenty-one feet is diſtance enough to allow theſe trees from one another at firſt. The ground then will be yielding a tolerable crop; and as the trees meet in ſpreading bulk, a ſhare of them will naturally die away, and make room for the others to ſpread: And if the ſoil and ſituation ſhould be ſo remarkably ſuitable that this ſhould not be the caſe, but that they ſhould all continue flouriſhing and thriving in a vigorous ſtate, it would be an eaſy matter to thin them where they appear too cloſe: And ſuch trees will not only have afforded you their annual produce from the time of planting to that period, but will now repay you in a different way, namely, by affording their trunks for curious timber, and their branches for uſeful fuel.

Having thus marked out the places for the trees twenty-one feet diſtance from each other, every way, let the holes be made wide, but not deeper than the common ſoil, and let the turf be chopped ſmall, and laid at the bottom of the holes. During this operation, another ſet of experienced workmen ſhould be taking up the trees in the Nurſery in a judicious and careful manner, taking diſtance enough from each tree, and injuring the roots as little as may be. The trees being brought to the places where they are to be planted, the broken and bruiſed parts of the root muſt be cut off with a ſharp knife, and the graft muſt be ſhortened ſo that the top and bottom may bear an exact proportion to each other. They ſhould be then ſet in the holes upon the chopped turf, which will elevate the top of the root rather above the common level of the ground; then the fineſt mould ſhould inveſt their fibres, which ſhould be ſeparated with the fingers, that every part may receive a ſhare. The judicious planter ſhould alſo frequently ſhake the tree, while others are filling in the mould, the better ſtill to furniſh every part of the root with the fineſt mould; and when the hole is full, it ſhould be pretty cloſely preſſed down with the foot, to keep the tree ſteady and firm in its place; and the redundant mould ſhould be brought round the ſtem, and on that ſome inverted turf, raiſing a bank round each four or five inches high.

This work may be done any time in the autumn, winter, or ſpring; though the former is more eligible on many accounts, but particularly, that the mould will be ſo well ſettled to the root during winter, that it will not become dry, nor want watering, the ſummer following, unleſs a more than ordinarily dry ſummer ſhould happen; and when this is the caſe, autumnal planted trees always fare much better than thoſe ſet in the ſpring.

The trees being thus planted, the Cherry Orchard is formed; and it will require no trouble in management, until it affords you fruit, provided the land be uſed for a Kitchen Garden. But if the Orchard is large, and of great extent, it ſhould be kept conſtantly grazed with ſheep and ſmall cattle. This will cauſe an additional expence of hurdling the trees, to keep them free from their inſults. But as this expence of hurdling will be very great, eſpecially where wood is ſcarce; and as the trees will afford few Cherries in leſs than three years, the firſt year the land may be ploughed for a crop of grain of any ſort; for no Cherries may be expected the firſt year. The ſecond year alſo it may yield a crop of grain, as the Cherries the ſecond year will be but few; and even the third year the quantity of Cherries will be ſo inconſiderable, that the ground may be kept in tillage this year alſo. The fourth year it may lie fallow the early part of the ſummer, and then be ſown with turneps, to be taken off the ground the winter following; but this is with a view only to give the trees one year's more ſtrength before the cattle are brought upon the ground. If they appear firm, and able to defend themſelves, the ground ſhould be laid down with graſs-ſeeds the fourth year after the trees have been planted; otherwiſe the ſowing of graſs-ſeed ſhould be deferred until the ſpring following, when the turneps are off; and from that time it ſhould be conſtantly grazed with ſheep and ſmall cattle.

Cherries ſhould be gathered early in the morning, or as they are wanted, and no more ſhould be pulled than what are ſure to be ſold that day. As ſoon as they are red, and in tolerable eating, the gathering ſhould be begun, and the fruit brought to the market to turn them into money as quick as poſſible; for there is no waiting until they are in fineſt perfection, by thoſe whoſe livelihood depends upon the ſucceſs of the ſale; for if much wet ſhould happen, nay, one night of high wind and rain, it will at once deſtroy whole orchards of this fruit when ripe.

The owners of Cherry-orchards ſhould be careful to make the gatherers move their ladders often enough. Theſe people, through idleneſs, to ſave the trouble of often deſcending to remove their ladders, will draw boughs to them which are at too great a diſtance, by which forcing many of them are bruiſed or broken; after which follows the gum, and the health of the tree is impaired. High winds will bring calamities enough of theſe kinds to the Cherry-trees: and we ſhould endeavour to alleviate them, and heal the broken parts, rather than encreaſe their number by rough-handling them at the time of gathering the fruit, whilſt they are paying us the wholeſome, the profitable, and delilcious tribute of their culture, protection, and good management.

CHAP. XV.

PYRUS COMMUNIS, The PEAR-TREE.

THERE are many ſorts of Pears cultivated in the Engliſh Gardens, though nothing like the number given us in ſome Catalogues; one and the ſame fruit being called over and over again by different names.

The principal ſorts of Pears which I have found diſtinct and different fruit are divided into three claſſes, viz.

I. Summer Pears.
II. Autumnal Pears.
III. Winter Pears.

I. Summer Pears. The principal ſorts of this claſs are,

Species. 1. The Cherry Pear.
2. St. James's Pear.
3. Little Muſk.
4. Early Green.
5. Amber Pear, Muſk Robert, or Queen's Pear.
6. Citron Pear,
7. Lemon Pear.
8. Crawford Pear.
9. Pear Piper.
10. Wine Pear.
11. Green Chiſſel.
12. The Supreme Pear.
13. The Brute Pear.
14. Jargonelle.
15. Orange Muſk.
16. Great Blanquette.
17. Little Blanquette.
18. Summer Bergamot or Bergamy.
19. Early Ruſſelet.
20. Roſe Pear.
21. Red Pear Robert.
22. Red Orange Pear.
23. Orange Bergamy.
24. Red Admirable.
25. Green Muſk.
26. Muſked Bon Chretien.
27. Summer Bon Chretien, or Good Chriſtan.
28. Grey Honey Pear.
29. Muſked Drone Pear.
30. Onion Pear.
31. Royal Pear.
32. Perfumed Pear.
33. Salviati Pear.
34. Scotch Bergamot.

II. Autumnal Pears.
The principal ſorts of theſe are,

Species. 1. Autumn Bergamot.
2. Swiſs Bergamot.
3. Red Buree.
4. Brown Buree.
5. Green Buree.
6. Buree Bergamot.
7. Monſieur John.
8. Verte Longue, or Long Green Pear.
9. Craſane.
10. The Knave's Pear.
11. Vine Pear.
12. Green Sugar Pear.
13. Great Ruſſelet.
14. French Bergamot.
15. Autumnal Roſe Pear.
16. Vicar Pear.
17. Gray Good Wife.
18. Swan's Egg.
19. Muſcat Fleury.
20. Dean Pear.
21. Marquis's Pear.
22. Burnt Cat, or Virgin of Xaintonge.
23. Long-ſtalked Muſcat of the end of Autumn.
24. Beſideri.
25. Pound Pear.

III. Winter Pears.

The principal ſorts of theſe are,

Species.

1. The Dauphine Pear.
2. Martin Sec, or Dry Martin.
3. St. Germain.
4. Chaſſery.
5. Ambrette.
6. Virgoleuſe.
7. Winter Thorn.
8. Villain of Anjou.
9. The Ruſſet of Anjou, or the Wonder of the Winter.
10. Amadot Pear.
11. Thick-ſtalked Pear.
12. Louiſſe Bonne, or the Good Lewis Pear.
13. Winter Verte Longue, or L'Eſchaſſerie.
14. The Colmar.
15. St. Auſtin.
16. Spaniſh Bon Chretien, or Good Chriſtian.
17. Small Winter Buree.
18. Martin Sire, or Lord Martin.
19. Iron Pear.
20. Winter Bergamot.
21. Winter Ruſſelet.
22. Winter Citron Pear.
23. The Gate Pear.
24. The Golden Winter Pear.
25. German Muſcat.
26. Holland's Bergamot.
27. Eaſter Bergamot.
28. The Naples Pear.
29. Winter Bon Chretien.
30. Chaumontelle.
31. Carmelite.
32. St. Martial.
33. Cadillac,
34. Union Pear, or Uvedale's St. Germain.

I. Summer Pears.

The Cherry Pear,

1. Cherry Pear is ſo called from its being in eating with the Cherries. It is a ſmall Pear, red next the ſun, but yellow on the oppoſite ſide. The fleſh is melting, ſweet, and good, but will keep only a few days. It bears well on ſtandards.

St. James's Pear,

2. St. James's Pear is ſo called from its ſeaſon of ripening. It is a ſmall Pear, of a greeniſh-yellow colour, with a tinge of red on the ſide facing the ſun. It is very juicy and agreeable, but ſoon becomes mealy and rotten. This ſucceeds well in ſtandards.

Little Muſk,

3. Little Muſk. This is a ſmall Pear of a rounder figure than the others. The colour is yellow; the fleſh is melting, and of a muſky flavour; but holds good only two or three days. This is ſometimes planted in ſtandards, but ſucceeds beſt in eſpaliers, or againſt a wall.

Early Green,

4. Early Green is a ſmall Pear, nearly round, and of a green colour mixed with yellow. The fleſh is ſoft, juicy, and agreeable; and the tree bears well in any ſituation.

Amber Pear,

5. Amber Pear is a larger Pear than the other, ſomewhat round, and of a fine amber colour. The fleſh is ſoft, and of an agreeable flavour; and the tree ſucceeds beſt in a dwarf, or againſt a wall.

Citron Pear,

6. Citron Pear is a middle-ſized Pear, ſomewhat oblong, but, like others, narroweſt towards the footſtalk. The ſide facing the ſun is of a pale red, and the ſide oppoſite of a pale yellow colour. The fleſh is melting, juicy, and agreeable, and the tree ſucceeds well in a ſtandard.

Lemon Pear,

7. Lemon Pear. This is a ſmall, oval Pear, almoſt in ſhape of a Lemon. The ſkin is yellow; but on the ſide facing the ſun it is faintly tinged with red. The fleſh is melting, ſweet, and of a muſky flavour; and the tree is hardy, and a good bearer.

Crawford Pear,

8. Crawford is a middle-ſized Pear of a white colour. The fleſh is melting, and the juice ſweet, and of an agreeable flavour. The tree is hardy, and a good bearer.

Pear Piper,

9. Pear Piper is a well known Pear in Scotland, deſcribed by the ingenious Author of the *Fruit-Gardener*. It is of a ſmall ſize, and of an oblong figure. The colour is a yellowiſh-green; and the fleſh is melting, juicy, and delicious. This tree is hardy, and a good bearer.

Wine Pear,

10. Wine Pear is a ſmall Pear, ſhort, flatted, and furrowed at the top. The ſide next the ſun is red, and the oppoſite of a yellowiſh-green colour. The fleſh is tender, juicy, and of an agreeable flavour; and the tree is hardy, and a good bearer.

Green Chiſſel,

11. Green Chiſſel is a middle-ſized Pear, of a green colour. The fleſh is melting, juicy, and agreeable; and the tree is a good bearer in a dwarf, or againſt a wall.

The Supreme Pear,

12. The Supreme is a beautiful Pear of the middle-ſize. The ſkin is thin, and of a greeniſh-yellow colour ſtriped with red. The fleſh is ſomewhat firm, and full of a ſweet, agreeable juice. The tree is a good bearer, and the fruit rots ſoon after it is ripe.

The Brute Pear,

13. The Brute Pear is a middle-ſized, roundiſh Pear, growing on a very ſhort footſtalk. Its colour is a yellowiſh-green, tinged with red on the ſide next the ſun. The fleſh is melting, and full of a rich, perfumed juice; but its being gritty and diſagreeable near the core, occaſioned its having the ſtrange name of the Brute Pear.

and Jargonelle Pear deſcribed;

14. Jargonelle, Cuiſſe Madame, or Ladies Thigh. There are ſome who pretend to diſtinguiſh between the Cuiſſe Madame and the Jargonelle; but they are one and the ſame Pear in its different varieties. The Jargonelle, therefore, or Cuiſſe Madame, is a very beautiful, pyramidical Pear, large at the extremity, and finely tapered towards the footſtalk. The ſkin is thin, ſmooth, and ſoft, and the colour varies in different ſituations. Againſt a north-wall it is of a green colour; in dwarfs and weſt-walls, of a greeniſh-yellow colour, having a mixture of brown or iron colour on the oppoſite ſide; and in a fine ſituation, it is yellow ſtained with red on the ſide facing the ſun. The fleſh is tender, and ſo full of a moſt delicious juice, that it is juſtly ranked among the beſt Summer Pears we have. This tree ſends out long, ſtrong, ſpreading ſhoots without order, ſo that it appears unhandſome unleſs trained to a wall: But even in this reſpect it varies; for they are weaker in ſome ſituations than in others; and this occaſions alſo a variation in the fruit, which has made ſome believe them to be diſtinct ſorts. The fruit is generally ripe with the corn; but, what is wonderful, I cleft-grafted an old Pear-tree, with grafts of the Jargonelle Pear, and the branches were produced upright, firm, and regular. The fruit is large, of a reddiſh colour, firmer, leſs taper, and not ripe before Michaelmas: So that, had I not performed the operation myſelf, I could never have believed it to be the Jargonelle Pear, and that ſome very valuable and unknown acquiſition was gained to our Collection.

Theſe trees bear extremely well in ſtandards, though the fruit is ſmaller, and they begin bearing very early; for I have had trees exhibit their fruit as they grew in the Nurſery lines, when no more than two or three years from the graft; a circumſtance which ſeldom happens to other Pear-trees, though in the beſt training againſt a commodious wall.

Orange Muſk, 15. Orange Muſk is a round, middle-ſized Pear, of a yellow colour, frequently ſpotted with dark-brown or blackiſh ſpots. The fleſh is juicy and perfumed, and muſt be eaten as ſoon as ripe, or its fine flavour will be loſt.

Great Blanquette, 16. Great Blanquette is a large, roundiſh Pear, ſmooth, and of a yellowiſh-green colour when ripe. The fleſh is melting, juicy, and of a delicious flavour, and is ſaid by many to be equal to the Jargonelle. It ripens about the ſame time, and the fruit is called in many parts, The Bagpipe Pear of Anjou.

Little Blanquette, 17. Little Blanquette is a ſmall, roundiſh, ſmooth-ſkinned Pear, of a pale or yellowiſh-green colour when ripe. The fleſh is tender, juicy, and richly perfumed, and is in eating a week or ten days after the former.

Summer Bergamy, 18. Summer Bergamy. There are many ſorts of Summer Bergamies which go by the names of the perſons who raiſed them, or cauſed them to become more generally known. They are of different ſizes, but nearly of ſimilar ſhape. They are all poſſeſſed of the like kind of delicious juice, but are leſs perfumed, and of inferior goodneſs to the Autumnal Bergamies.

Early Ruſſelet, 19. Early Ruſſelet is a longiſh Pear of the middle-ſize. The ſkin is ſmooth, red on one ſide, and of a greeniſh-yellow colour on the other. The fleſh is tender, juicy, and of an agreeable muſky flavour; and the fruit is produced plentifully on ſtandards, as well as dwarfs, and againſt a wall.

Roſe Pear, 20. Roſe Pear, or Roſe Water Pear. Of this there are two or three ſorts, differing in ſome reſpect or other. They are in general middle-ſized Pears, ſhaped ſomewhat like Bergamots, of purpliſh or red colour next the ſun, and of a yellowiſh-green on the ſide oppoſite. The fleſh is melting, juicy, and has the flavour of Roſe-wter. The trees are good bearers on ſtandards, and produce the fruit in cluſters; ſome of the ſorts having ſhort footſtalks, others long; ſome firmer fleſh, and leſs of the flavour of Roſe-water than others; but all are rich, and delicious to the taſte.

Red Pear Robert, 21. Red Pear Robert. Of this there are ſeveral ſorts, moſt of which have different names. The Red Pear Robert is a middle-ſized fruit, ſhaped like ſome of the Bergamots, but is more narrowed at the baſe. It is of a deep-red colour facing the ſun; and yellow, beautifully variegated with a paler red, on the oppoſite ſide. The fleſh is tender, and full of a ſweet, muſky juice. The tree is a good bearer either on ſtandards or otherwiſe.

Red Orange Pear, 22. Red Orange is a Pear of the middle-ſize, of a roundiſh figure, and of a reddiſh-purple colour facing the ſun; but greeniſh on the ſide oppoſite. The fleſh is melting, and full of a rich, perfumed, ſaccharine juice.

Orange Bergamy, 23. Orange Bergamy. Of this there are two or three ſorts; but that called the Royal Orange Bergamot is in moſt eſteem. The colour of this is yellow, with a faint red next the ſun; whereas all the others are green, or of a greeniſh-yellow colour. Theſe are all middle-ſized fruit of the Bergamot ſhape; and the fleſh of all is breaking, and full of a rich, briſk, perfumed juice. The trees thrive indifferently in ſtandards, but ſucceed well on dwarfs, or againſt a wall.

Red Admirable, 24. Red Admirable. The fruit is large, globular, and of a deep crimſon colour on the ſunny ſide. The fleſh is tender, and full of a ſweet, delicious juice. The tree ſucceeds well for the purpoſes of walls, dwarfs, and ſtandards.

Green Muſk, 25. Green Muſk is an oblong, ſmall Pear, of a green colour, tho' often ſpotted with brown. The fleſh is breaking, but full of a very rich, briſk, perfumed juice. It is uſually planted againſt the wall, or in dwarfs; tho' in ſome ſituations it does very well in ſtandards.

Muſked Bon Chretien, 26. Muſked Bon Chretien is a middle-ſized, oblong fruit, but narroweſt towards the ſtalk. The fleſh is hard, and breaking; but very juicy, briſk, and of a muſky flavour. The tree ſucceeds ill in ſtandards, and is ſeldom planted otherwiſe than againſt a wall.

Summer Bon Chretien, or, Good Chriſtian, 27. Summer Bon Chretien, or Good Chriſtian, is a large, oblong Pear, ſmooth, of a greeniſh-yellow colour on one ſide, but beautifully ſtriped or tinged with red on the ſide oppoſite. The fleſh is tender, and full of a briſk, perfumed, agreeable juice. This tree in general is a bad bearer in any ſituation.

Grey Honey Pear, 28. Grey Honey Pear is a middle-ſized Summer Pear, almoſt flat at the top, but rounded towards the baſe, which is faſtened to a ſhort, thick foot-ſtalk. Its colour is a browniſh, or ruſſet-grey, its fleſh ſoft, its juice ſweet and agreeable; and the tree bears well in any ſituation.

Muſked Drone Pear, 29. Muſked Drone Pear is a globular, yellowiſh fruit of the middle ſize. The fleſh is melting, and the juice of a rich, muſky flavour. This may be planted in dwarfs or ſtandards, but ſucceeds beſt againſt a wall.

Onion Pear, 30. Onion Pear is a midle-ſized, globular Pear, covered with a browniſh ſkin. The fleſh is melting; but the juice is of inferior richneſs to moſt other Summer Pears.

Royal Pear, 31. Royal Pear. The ſhape of this is nearly globular; it is flat at the top, but perfectly rounded towards the baſe, which is faſtened to a long foot-ſtalk. The ſkin is ſmooth, and of a pale-yellow colour. The fleſh is ſomewhat breaking, and the juice ſweet, muſky, and exhilarating. The tree is a great bearer, hardy, and ſucceeds well in any ſituation; and the fruit is ranked among the beſt ſorts of Summer Pears we have.

Perfumed Pear, 32. Perfumed Pear. This has long been diſtinguiſhed by the name of Perfumed Pear. Tho' many of the preceding ſpecies have a better right to the appellation. It is of the middle ſize, globular, and of a red colour, often ſpotted with brown. The fleſh is melting, but not very juicy, and is of a muſky agreeable flavour.

Salviati Pear, 33. Salviati Pear. This Pear is of the larger ſize, almoſt globular, and grows on a long, ſlender footſtalk. It is of a kind of ſtraw-colour on the under-ſide, but of a beautiful mixture of red and yellow on the part facing the ſun. The fleſh is tender, and the juice ſweet and delicious. This tree ſhould be planted for ſtandards, tho' it ſucceeds beſt in dwarfs, or againſt a wall.

and Scotch Bergamot deſcribed. 34. Scotch Bergamot is a large Pear of the Bergamot ſhape, depreſſed at the top, but rounded at the baſe, and grows on a ſhort, thick foot-ſtalk. It is of a yellow colour on the under-ſide, and finely ſtained with red on the other. The fleſh is tender, and full of a juice, which is ſweet and of agreeable flavour. This tree ſucceeds well in ſtandards, and the fruit ripens well in any ſituation.

There are many other ſorts of Summer Pears, but theſe are the principal ones; and the others differ ſo little from one or other of theſe, that the ſame deſcription, though the Pears have different names, may ſerve for both. They are
ſet

ſet nearly in their order of ripening; but the time for this alſo varies according to their different ſtations; inſomuch that one of the later Summer Pears, in ſome favourable ſituation, is frequently ripe before the earlier ſorts of that claſs: And the time of ripening, even of the earlieſt kinds, by being badly ſituated is protracted, and the fruit does not ſhew itſelf perfect before the latter end of the ſummer. In general, however, one or other of the above kind of trees will afford you ripe fruit from the middle of July until the middle of September: And though I ſay the trees will afford you ripe fruit, it muſt not be underſtood that the Pears are to hang on the trees until they are full ripe: No; for by that time they would be eaten by waſps, flies, inſects, &c. and be good for nothing; but they muſt be gathered a week or ten days before they are ripe, and laid on a table, or clean floor, in a dry airy room. Thus they will naturally mellow, their rich juice will be collected, and they will then become exhilarating, and of a delicious reliſh. From the time they are brought into the room, they ſhould be looked over every day, in order to ſelect ſuch as are fit for the table. This is known by their aſſuming their proper colours, or by the ſhrivelling of the ſkin; and not by bruiſing them with the finger or thumb, as is too often practiſed, to find if they are ſoft. As often as they are fit for eating, they ſhould be taken away and uſed, for none of the Summer Pears continue good long; inſomuch that out of the above-mentioned ſort, the ſucceſſion can hardly be expected to be kept up longer than about two months. Proceed we now to the next claſs of Pears, which will keep longer, called,

II. Autumnal Pears.

Autumn Bergamot, 1. Autumn Bergamot. Of this there are many varieties, which are ſo well known as to need no deſcription: Only it muſt be obſerved, that the juice in general is of higher perfume than any of the other ſorts of Bergamots, and their value is enhanced by their long keeping; for they are in eating in September, and ripen in ſucceſſion regularly in the room, after having been gathered two or three months; ſo that theſe Bergamots may be had in perfection from September until the beginning of December. The tree ſucceeds admirably in ſtandards; but the fruit ripens earlier againſt a wall; ſo that whoever is deſirous of having a long ſucceſſion of this Pear ſhould have trees againſt the wall, eſpaliers, and ſtandards.

Swiſs Bergamot, 2. Swiſs Bergamot is a roundiſh Pear, ſomewhat like the Autumn Bergamot, but is beatifully variegated with red on the ſide next the ſun. The fleſh is melting, and very juicy, but is thought by moſt to be of inferior flavour to the preceding ſort. It ripens about the ſame time with the former, and the tree is hardy and a good bearer either in a ſtandard or otherwiſe.

Red Buree, 3. Red Buree is a large, oblong Pear, of a dark-brown or red colour when ripe. The fleſh is melting, and the juice is ſweet and finely perfumed. The fruit is gathered the early part of October, ſoon after which many of them will be fit for eating; and they ripen regularly in ſucceſſion, as they lie, for ſix weeks; ſo that Red Burees are often had the middle of November, or later. The tree muſt have a wall; and the fruit is one of the beſt Autumn Pears we have in England.

Brown Buree, 4. Brown Buree is a large, oblong fruit, generally of a ruſſet-brown colour, though this varies in different ſituations; and the fruit alſo is larger in ſome ſoils and aſpects than in others. The fleſh is melting, juicy, and extremely rich and ſweet; and the fruit is no ways inferior to the former, ripens about the ſame time, and generally continues good for two or three months; ſo that Brown Burees are often had the middle of December, or later.

Green Buree, 5. Green Buree is a very large, long fruit, uſually of a green colour; tho' in a good aſpect it is faintly tinged with red or brown on the ſunny ſide, and the green poſſeſſes a mixture of yellow on the ſide oppoſite. The fleſh is melting, juicy, ſweet, and good; but, unleſs the ſituation is every way ſuitable, is of inferior richneſs to the two former ſorts. It is in eating with the Brown Buree, and will continue good until the end of December.

Buree Bergamot, 6. Buree Bergamot is a large fruit, ſhaped like a Bergamot, but protruded on one ſide of the baſe below the inſertion of the footſtalk. The fleſh is melting, and the juice poſſeſſes the rich perfume of the Bergamot, and the delicate flavour of the Buree. It is in eating about the time with the Red Buree.

and Monſieur John deſcribed. 7. Monſieur John is a moderately large fruit, almoſt round, and of different colours in the different ſorts; for theſe, like the Burees, vary in colour, tho' leſs in flavour; and are entered as diſtinct Pears in ſome Catalogues, by the names of Brown Monſieur John, White Monſieur John, and Grey Monſieur John. The fleſh of all is breaking, but the juice is very ſweet and delicious. The tree is hardy, and the fruit ripens in ſtandards, tho' it does beſt in dwarfs, or againſt a wall. Againſt walls it is ripe by the middle of October, but on the ſtandard, ſeldom before the end of that month; and it will be in eating throughout the month of November, and part of December. Theſe ſeven ſorts of Pears conſtitute a ſet of the beſt Autumnal Pears.

Verte-Longue, or Long Green Pear, 8. Verte Longue, or Long Green Pear. This is often called the Autumnal Mouth-Water Pear. It is a large, long Pear, uſually of a green colour, though frequently ſpotted, and more or leſs of a ruſſet-colour on the ſunny-ſide. The fleſh is melting, and very juicy; but the ſituation muſt be dry, and the ſeaſon warm, to render it agreeable. The tree is hardy, bears well in any ſhape, and the fruit is in eating from the early part of October until the middle or end of December.

Craſane, 9. Craſane is a large, greeniſh, ruſſet-coloured Pear, flattened or hollowed at the top, but nearly globular at the baſe, where it is inſerted to a long footſtalk. The fleſh is tender, and replete with a briſk, agreeable, ſweet juice; and it is in eating from October until December. This fruit is ranked among the beſt of the Autumnal Pears. The tree is a good bearer, but ſhould have a wall to bring the fruit to perfection.

Knave's Pear, 10. Knave's Pear is a moderately large, long fruit, of a greeniſh-yellow colour; tho' ſtained with red on the oppoſite ſide. The fleſh is tender, juicy, ſweet, and delicious; and the fruit is in good credit as an Autumnal Pear. It is ripe in October, and is in eating until the middle of December.

and Vine Pear deſcribed. 11. Vine Pear is a middle-ſized, roundiſh Pear, of a dark-red colour, having a mixture of yellow when ripe. The fleſh is tender, and full of an agreeable, vinous juice. This Pear in ſome ſituations is ripe in September, in others not before the end of October; but as the earlieſt are the beſt, whoever is deſirous of having this Pear in perfection, ſhould allow it a ſouth-eaſt wall, in a dry, warm place.

Green Sugar Pear,

12. Green Sugar Pear is a middle-ſized, pyramidical Pear, ſmooth, and of a pale-green colour. The fleſh is melting, full of an agreeable ſaccharine juice, and is in eating the end of October, November, and part of December.

Great Ruſſelet,

13. Great Ruſſelet is a large, thick Pear, often ſpotted, and of a dark-brown colour next the ſun, but greeniſh, with a mixture of yellow, on the oppoſite ſide. The fleſh is tender; and in warm ſituations and favourable ſeaſons, the juice is agreeable; in the reverſe, inſipid; and hardly worth taſting. There are ſeveral varieties of this ſort, ſome of which ripen early, others later by a month. They are in general indifferent Pears; but their goodneſs in a great meaſure depends upon a warm ſituation and a propitious ſeaſon.

French Bergamot,

14. French Bergamot is a ſmall Pear, red on the ſide next the ſun, but yellowiſh on the ſide oppoſite. The fleſh is tender, juicy, ſweet, and agreeable; but the tree in general is a moderate bearer. The fruit is good when grown againſt a wall in a warm, dry ſoil; otherwiſe it is ſmall, and of inferior value to the other Bergamots; from which I have ſeparated it; though it is in eating about the ſame time.

Autumnal RoſePear,

15. Autumnal Roſe Pear is an admirable Pear of the ſmaller kind, almoſt round, of a reddiſh colour next the ſun, but of a greeniſh-yellow on the oppoſite ſide. The fleſh is tender, tho' not very juicy; but it nevertheleſs has an extremely agreeable, aromatic flavour. In ſome ſituations it ripens early in October, in others a month later, and continues good until the middle of December.

Vicar Pear,

16. Vicar Pear is a long Pear, variegated with red and yellow, and grows on a long, ſtraight footſtalk. The fleſh is tender tho' not very juicy, but is ſweet, and of a muſky flavour.

Grey Good Wife,

17. Grey Good Wife is a roundiſh Pear, of the middle-ſize, of a browniſh-red colour on the ſunny-ſide, and of a yellowiſh-green on the ſide oppoſite. The fleſh is ſoft, but not very tender; the juice ſweet, and richly perfumed; and the Pear is in eating from October until the middle of December. The tree is a good bearer in any training.

Swan's Egg,

18. Swan's Egg is a well-known Pear, of the middle-ſize. Its figure, which gave occaſion to its name, is nearly in ſhape of an egg; and its colour is a dark or duſky-green. The fleſh is ſoft, and full of a ſweet, pleaſant juice; and the Pear is in eating from October until Chriſtmas. The tree is a good bearer in any training; and the fruit has advocates for its being among the beſt of the Pear kind.

Muſcat Fleury,

19. Muſcat Fleury is a ſmall, globular Pear, of a browniſh-red colour, and grows on a long, ſlender footſtalk. The fleſh is tender, juicy, and of ſuch heightened aromatic flavour, that it is ſaid to excel all others of the perfumed kind of Pears. This Pear is in eating from October until Chriſtmas, and the tree is a good bearer.

Dean Pear,

20. Dean Pear is an oblong Pear of the larger ſize, and of a greeniſh-yellow colour, tinged with brown on the ſide next the ſun. The fleſh is tender, and full of a muſky juice; but the fruit will not keep, and is reckoned among the worſt of the Autumn Pears, thought he tree is beautiful, and a good bearer.

Marquis's Pear,

21. Marquis's Pear is a large, beautiful Pear, flat at the top, ſwelling lower, and afterwards diminiſhing gradually to the footſtalk. The ſkin is of a greeniſh-yellow colour, ſpotted or faintly ſtriped with red on the ſide next the ſun. The fleſh is tender, and the juice copious, ſweet, and pleaſant. The fruit is in eating in November and December; and the tree bears tolerably well in a ſtandard as well as a dwarf, or againſt a wall.

BurntCat, or Virgin of Xaintonge,

22. Burnt Cat, or Virgin of Xaintonge, is an oblong Pear of the ſmaller kind. The ſkin is ſmooth, and of a dark-brown colour on the ſide next the ſun, but paler on the oppoſite. The fleſh is tender, but not very juicy; the Pear is ripe in November, and muſt be eat directly, or it will become mealy, and good for nothing.

Long-ſtalked Muſcat of the end of Autumn,

23. Long-ſtalked Muſcat of the End of Autumn is a large, oblong Pear, ſmooth, of a dark-red colour next the ſun, but a greeniſh-yellow on the ſide oppoſite, and grows on a very long footſtalk. The fleſh is tender, juicy, and of an agreeable muſky flavour; and the fruit is in eating the end of autumn, but will not keep long.

Beſideri,

24. Beſideri is a globular Pear of the middle-ſize, of a yellowiſh-green colour when ripe, and grows in cluſters on long, ſlender footſtalks. The fleſh is not juicy, and is little eſteemed for eating as fruit; but it is admirable in pies, or to be eat with cream.

and Pound Pear deſcribed.

25. Pound Pear is a very large Pear, too well known to need deſcription. It is generally uſed as a baking Pear; but it is not bad for the table in a dry, warm ſituation; for there it ripens regularly, and the ſkin diſcovers the red, the green, and the yellow, beautifully blended together; the viſcidity of the juice is abated, and it becomes ſweet and aromatic. I had a Pear-tree ſent me by the name of the Two Pound Pear: I grafted ſome of the young ſhoots into Common Pear-ſtocks, and planted them in proper places to grow for fruit. The ſhoots were amazingly vigorous, and the trees ſoon came into bearing. At firſt, they were nearly as large again as the Pound Pear, though their colour and ſubſtance were the ſame. The ſize of the fruit has diminiſhed gradually every year ſince, plainly ſhewing it to be no other than a good ſort of Pound Pear. Numerous other Pears might be mentioned, which are admirable for baking and culinary purpoſes: But there would be no end of the taſk; neither is it needful, as the generality of them are known to the good women in the country, who have them growing in common with Apple-trees in their orchards.

III. Winter Pears.

The Dauphine Pear,

1. Dauphine Pear is a roundiſh Pear of the middle-ſize, but flat at the top; the eye is ſunk, and the baſe ſomewhat protruded below the inſertion of the ſtalk, which is long and ſtraight. The ſkin is ſmooth, and of a yellowiſh-green colour; the fleſh is melting, of a yellow colour, and full of a ſweet, muſky juice. It is in eating the end of November, and continues good near two months.

Martin Sec, or Dry Martin,

2. Martin Sec, or Dry Martin, is a large, oblong Pear, of a ruſſet-colour on one ſide, and a browniſh-red on the other. The fleſh is breaking, and not very juicy; but, nevertheleſs, not ſo agreeably ſweet and delicate. It is in eating the end of November, and keeps good two months or more.

St. Germain,

3. St. Germain is a large, long Pear, of various colours in different ſituations; it being yellow in ſome, in others greeniſh, and in others again reddiſh, when ripe. The fleſh is tender, and full of a briſk, agreeable, ſweet juice. It

is in eating the end of November, and continues good two or three months.

Chaſſery,

4. Chaſſery is a large, oblong Pear, of a pale-yellow colour when ripe. The fleſh is melting, of a yellow colour, and full of a ſweet, pleaſing juice, of an aromatic flavour. It is in eating the end of November, and the fruit ripens in ſucceſſion as it lies, after being gathered, for near two months.

Ambrette,

5. Ambrette is a pretty large, roundiſh Pear, hollowed at the top, and covered with a rough, ruſſet-coloured ſkin. The fleſh is tender, and the juice ſweet, and richly perfumed. It is a Pear univerſally liked; and is in eating from the end of November until the latter part of January.

Virgoleuſe,

6 Virgoleuſe is a large, oblong Pear, of a green colour, but ſtained with brown or ferrugineous ſtripes on the ſide next the ſun. The fleſh is tender, full of a ſweet, briſk juice, and is in eating from the end of November until the end of January.

Winter Thorn,

7. Winter Thorn is a large, long, pyramidical Pear, rounded at both ends, ſoft to the touch, and of a greeniſh-white colour, with a mixture of yellow. The fleſh is melting, juicy, ſweet, acid, and perfumed; which guſts are ſo agreeably blended with each other, as to render it a moſt deſirable Pear. It will ripen againſt a good wall the end of November, or early in December, and continue good until February.

Villain of Anjou,

8. Villain of Anjou is a large, roundiſh Pear, of a pale-yellow colour, growing on a long, ſlender footſtalk. The fleſh is hard, breaking, and not juicy; nevertheleſs it is reckoned by many a good eating Pear, and is ripe the end of November, or early in December.

Ruſſet of Anjou, or the Wonder of the Winter,

9. Ruſſet of Anjou, or the Wonder of the Winter, is a pretty large, roundiſh Pear, hollowed at the top, of a green colour, ſpotted, and grows on a long, ſlender footſtalk. The fleſh is melting; and the juice copious, ſweet, muſky, and of ſuch delicious flavour as to gain this a place among the beſt ſorts of Winter Pears. It ripens the early part of December, and continues good until February.

Amadot,

10. Amadot. This is an oblong Pear of the middle-ſize, flat at the top, and poſſeſſed of a roughiſh, ruſſet-coloured ſkin. The fleſh is ſomewhat dry, but highly perfumed, ſweet, and agreeable. It is in eating the early part of December, and continues good until February.

Thick-ſtalked Pear,

11. Thick-ſtalked Pear is a large, roundiſh, yellow Pear, ſituated on a remarkably large, thick footſtalk. The fleſh is hard, breaking, and not juicy; but has nevertheleſs a muſky flavour, and is agreeable. It is in eating about the ſame time with the former, and continues good for two months.

Louiſſe Bonne, or the Good Lewis Pear,

12. Louiſſe Bonne, or the Good Lewis Pear, is a pretty large, longiſh Pear, having a ſmooth, greeniſh, whitiſh ſkin, and a ſhort, fleſhy footſtalk. The fleſh is tender, and the juice extremely fine and ſweet. This Pear comes into eating the early part of December.

Winter Verte Longue,

13. Winter Verte Longue is a long, green, ſmooth, ſpotted Pear, which alters to a yellow colour when fit for the table, and has a long, ſtraight footſtalk. The fleſh is melting, juicy, ſweet, and exalted by a ſuitable proportion of perfume. It is in eating the end of December.

Colmar,

14. Colmar is a large Pear, having a flat top, a depreſſed eye, and a ſwelling middle, from whence it diminiſhes gradually to the ſtalk, which is ſhort, thick, and bent. The ſkin is of a green colour, often ſpotted with yellow; and a browniſh tinge often poſſeſſes the part next the ſun. The fleſh is tender; and the juice ſweet, and of ſuch an extraordinary flavour, that it is ranked among the beſt ſorts of Winter Pears. It is in eating the end of December, and continues good until the end of March.

St Auſtin,

15. St. Auſtin is an oblong Pear, of the middle-ſize, poſſeſſing a citron-coloured ſkin elegantly ſpotted with red. The fleſh is tender and juicy, but too acid to be reliſhed by moſt palates. It ripens in December, and is in eating great part of February, and frequently in March.

Spaniſh Bon Chretien, or Good Chriſtian,

16. Spaniſh Bon Chretien, or Good Chriſtian, is a large, pyramidical Pear, of a purpliſh-red colour next the ſun, with many dark-coloured ſpots, and of a pale-yellow on the ſide oppoſite. The fleſh is breaking, and, though not juicy, moderately good; but the Pear is always in eſteem, being excellent for baking. It ripens the end of December, and will frequently keep until March.

Small Winter Buree,

17. Small Winter Burée is a ſmall, oblong Pear, poſſeſſing a yellow or ruſſet-coloured ſkin ſpotted with red. The fleſh is melting, juicy, and very rich: It ripens in December, and frequently holds good until March. The tree is a great bearer, produces its fruit in cloſe cluſters, and ſucceeds well in a ſtandard.

Martin Sire, or Lord Martin,

18. Martin Sire, or Lord Martin, is a large Pear, hollowed at the top, ſwelling irregularly in the middle, and poſſeſſing a fine, ſoft, ſmooth ſkin, which on the ſunny ſide is of a red colour, but yellow on the oppoſite ſide. The fleſh is breaking, and full of a ſweet, perfumed juice; and the Pear is reckoned among the better ſort of breaking Pears that are ripe in winter.

Iron Pear,

19. Iron Pear is an oblong Pear of the middle-ſize, poſſeſſing a tough, green, iron-coloured ſkin. The fleſh is melting, and the juice extremely ſweet and delicious: It is in eating the end of December, and continues good throughout January and a great part of February. The tree is extremely hardy, a good bearer, and ſucceeds well in a ſtandard; ſo that this ſort is as well worth propagating for winter fruit, as any of them.

Winter Bergamot,

20. Winter Bergamot is a true Bergamot-ſhaped Pear, moderately large, and of a greeniſh-yellow colour when ripe. It is very juicy, but leſs perfumed than, and much inferior to, the Autumn, or indeed almoſt any other ſort of Bergamot. It is in eating the end of November, or early in December, and continues good until the end of February.

Winter Ruſſelet,

21. Winter Ruſſelet is a longiſh Pear, of the middle-ſize, red facing the ſun, but greeniſh on the other ſide, which alters to a yellow as it ripens. The fleſh is melting, and the juice ſweet and good; and the fruit is in eating the end of January, and keeps good all winter, and a great part of the ſpring.

Winter Citron Pear,

22. Winter Citron Pear. This is a largiſh Pear, ſhaped like a Citron, and nearly of the ſame colour when ripe. The fleſh is hard, breaking, and, being poſſeſſed of very little juice, is eſtemed little otherwiſe than as a baking Pear; for which purpoſe it is in ſeaſon all the winter and ſpring following.

The Gate Pear,

23. The Gate Pear is a large globular fruit, poſſeſſed of an agreeable ſweetneſs, blended with a ſlight mixture of perfume. It is eſteemed by many as an eating Pear, and is allowed by all to be excellent for baking: Its ſeaſon is from December until April.

The Golden Winter Pear,

24. The Golden Winter Pear is a large, globular fruit, of a golden-yellow colour, beautifully ſpotted with red or brown ſpots. The fleſh is dry, and being poſſeſſed of little flavour, is eſteemed little otherwiſe than as a good baking Pear. Its ſeaſon is from January until April.

German Muſcat,

25. German Muſcat is an oblong Pear, of the middle-ſize, and of a ruſſet-red colour next the ſun. The fleſh is melting, juicy, and muſky; and the Pear is in eating all the latter part of the winter, ſpring, and ſometimes part of the ſummer.

Hollands Bergamot,

26. Hollands Bergamot is a large, round, greeniſh Pear. The fleſh is tender, and the juice copious, and of ſuperior flavour to the ſort called the Winter Bergamot. This Pear is in eating all the latter part of the winter and ſpring following.

Eaſter Bergamot,

27. Eaſter Bergamot is a large Pear of the Bergamot-ſhape, having a flat top, and the baſe protruded beyond the inſertion of the ſtalk; it is green when firſt gathered, but becomes yellow when ripe. The fleſh is tender, and the juice ſweet and good; and the fruit is in eating from February until May.

Naples Pear,

28. Naples Pear is a long, greeniſh Pear, above the middle-ſize. The fleſh is tender, and full of a ſweet, pleaſant juice; and the fruit is in eating all March, April, and frequently great part of May.

Winter Bon Chretien,

29. Winter Bon Chretien is a very large, pyramidical Pear, of a yellowiſh red-colour when ripe. The fleſh is breaking, but nevertheleſs tender, and full of a remarkably ſweet, exhilarating juice. It is ranked among the beſt kinds of Late Pears, and is in eating through March, April, and May.

Gardeners pretend to ſeveral ſorts of this Pear, called the Green, the Yellow, the Red, &c. But this difference of colour ſeems to be the effect only of different ſoils and ſituations; for, in fact, there is only one real Winter Bon Chretien Pear.

Chaumontelle,

30. Chaumontelle is a large, long Pear, of a red colour on the ſunny ſide, and greeniſh on the ſide oppoſite, which changes to yellow as the fruit ripens. The fleſh is melting; and the juice is ſweet, muſky, pleaſant, and continues good during April and May, and frequently the beſt part of June.

Carmelite,

31. Carmelite is a roundiſh Pear of the middle-ſize, having a ſpotted, grey-coloured ſkin, ſtained more or leſs with red on the ſide facing the ſun. The fleſh is hard, and poſſeſſed of a ſmall ſhare of uncorrected juice; ſo that this Pear is principally employed for culinary purpoſes, and is in ſeaſon all the ſpring months.

St. Martial,

32. St. Martial is a pretty large, oblong, ſmooth-ſkinned Pear, flat at the top, purple on one ſide, yellowiſh on the other, and grows on a long footſtalk. The fleſh is tender, the juice ſweet and good, and the fruit is in eating from the early part of March until June.

Cadillac,

33. Cadillac is a very large Pear, ſomewhat round, and of a red colour facing the ſun. The fleſh is hard, and the juice ſour; ſo that it is of no uſe except for baking, when it is found excellent.

and Union Pear, or Uvedale's St. Germain deſcribed.

34. Union Pear, or Uvedale's St. Germain, is a large, long Pear, of a green colour, ſlightly ſtained with red on the ſunny ſide. The fleſh is hard, and the juice ſour and uncorrected; ſo that this Pear is principally employed for baking, which it anſwers admirably well, and is in ſeaſon all the ſpring, and great part of the early ſummer.

By this time our liſt ſeems to be worn out, as the laſt-deſcribed Pears are hardly worth eating, unleſs prepared by fire. But the Reader muſt be informed, that ſuch Pears as thoſe are every whit as uſeful in their way, if not more ſo than the former, and are equally deſerving of praiſe. But there would be no end of deſcribing the various kinds of baking Pears that are truly excellent: They are to be met with in old Orchards all over the kingdom, many of which are without names, whilſt the better-known kinds go by the names of the Old Baking Pear, the Old Pound Pear, the Late Warden, Parkinſon's Warden, the Black Pear of Worceſter, the Bell Pear, the Stone Pear, the Fennel Pear, the Double-bloſſomed Pear, &c. &c. &c.

Neither is it needful to deſcribe Pears propagated in Cyder-counties for Perry, many of which are ſo hard, and intolerably harſh and ſour, as to be diſdained even by hogs.

Neither is it neceſſary to mention the numerous kinds of Choak Pears, which grow in hedges, and about old farm-houſes, they being uſeleſs, otherwiſe than for the beautiful appearance they make on the tree; for they are generally of a beautiful red colour, moderately large, and fair to the ſight. Some of theſe may be retained for ornament, and the wood for timber; whilſt the leſs thriving trees, and leaſt beautiful of theſe ſorts of Pears, may be grafted with better ſorts.

Having given you the beſt and principal ſorts of Summer, Autumn, and Winter Pears, I proceed now to their culture.

Culture.

This is eaſily effected by the common methods of grafting or budding. But as they are to be in different training and in different ſoils, proper ſorts muſt be pitched on to be raiſed, and ſuitable ſtocks ſhould be provided accordingly. Quince-ſtocks were formerly in repute for grafting thoſe deſigned for dwarfs: But as moſt of the beſt ſorts are found to live but a little while in theſe ſtocks, they are now diſuſed; and White Thorn ſtocks (though they have been recommended) are totally rejected by every experienced Nurſeryman; ſo that there appears to be only one good kind of ſtock, and that is, Pear-ſtocks raiſed from the kernels of the earlieſt and beſt ſort of Summer Pears; and ſuch ſtocks as theſe will be ſuitable for all the ſorts of Pears, and for the purpoſes wanted, whether they are to be trained againſt a wall, eſpalier, or in ſtandards.

The kernels muſt be ſown in the uſual manner in the Seminary; and if, after the plants are come up, they are duly watered in dry weather all ſummer, and kept clean from weeds, they will be fit to plant in the Nurſery in the autumn; though if they are found rather weak, the ſtrongeſt may be drawn out for the Nurſery, leaving the others in the ſeed-bed until the autumn following. The ground in the Nurſery ſhould be prepared by double-digging; and the plants ſhould be ſet a foot aſunder, in rows, at an interval of two feet from each other. The uſual care of digging between the rows in winter, and keeping the ground clean from weeds in ſummer, muſt attend them until the ſtocks are grown to nearly the thickneſs of the little finger, when they will be of proper ſize to receive the grafts or buds. Previous to the operation, carefully look over the quarter, and ſee if any appear thorny, ſtunted, or have a wild look. Eradicate all ſuch, and graft none but thoſe which ſhoot freely, and have the appearance of healthy grafts ariſing from a well-trained ſtock;

for ſuch would probably be good fruit, were they to be tried. The goodneſs of a Pear is improved or diminiſhed by the nature of the ſtock on which it grows; for which reaſon, ſome who are curious this way double-work their Pears; that is, they graft the beſt kinds of Pears into ſtocks raiſed from ſeed in the ſpring; and as they ſhoot in the ſummer, bud them afreſh, to aſſiſt their melting property, or to render the breakers leſs hard and gritty at the core.

The manner of grafting and budding Pears is ſo eaſy, that no-body can fail of ſucceſs; and the proceſs is ſo often repeated, that it is needleſs to ſay any more upon that head here; ſo that, ſuppoſing our ingenious Nurſeryman has raiſed a ſufficient quantity of dwarfs, half-ſtandards, or ſtandards, we will proceed next to the planting them out for good.

Proper ſoils for Pears. Previous to this, the nature of the ſoil ſhould be well conſidered, that the ſorts may be ſuitably ſtationed, or your ſucceſs will probably be but indifferent. All Pears are more or leſs gritty and ill-taſted at the core, even the Melters not excepted; and to remove this defect as much as may be, ſhould be the Gardener's ſingular attention. The Breakers of all the ſorts muſt have a deep, rich ſoil to render the fruit good. Plant ſuch trees in a dry, light, or gravelly ſoil, and they for the moſt part become intolerably gritty, ſtony at the core, and good for little. The Melters ſucceed beſt in a dry ſoil and a warm ſituation; for plant ſuch trees in a rich, deep, moiſt earth, or in the ſhade, the fruit will loſe its richneſs, and the delicious juice which it would otherwiſe poſſeſs, will be watery, inſipid, and the fruit good for little. And this teaches us to prepare the borders accordingly for the planting; that is, by laying rubbiſh at the bottom, furniſhing proper drains, and raiſing the ſoil of the border a foot and a half above the level of the ground, if it be naturally ſtiff, moiſt, and damp; and if gravelly, hot, and ſandy, then by clearing it away two feet deep, and laying in ſome good, rich earth from a well-ordered Kitchen Garden, or a fertile meadow, having the turf well rotted and incorporated by being turned over every month before it is wanted.

Method of planting them out for good. Having hinted thus much reſpecting the ſoil and ſituation for different ſorts of Pears, proceed we now to the planting them out for good. And firſt, we will plant a wall, or eſpalier of any deſired length with trees of different kinds of this fruit. Autumn is the beſt ſeaſon for the purpoſe, though it may be done ſucceſsfully any time in the winter, or early part of the ſpring; and the grafts or buds being one year old, ſhould be carefully taken up, the roots well pruned, and they ſhould be planted along the wall or eſpalier in the uſual manner, at about thirty feet diſtance from each other. The wall ſhould be of the higheſt ſort, in a ſouth, ſouth-eaſt, or ſouth-weſt aſpect; and that the top-part of it may not remain unoccupied until the Pears have filled it, a Standard Cherry-tree may be planted between each, to be taken away when the others want room. The borders may be of any breadth, though the wider the better, provided they are kept in good culture, and only ſallad-herbs, and the ſmaller kinds of Kitchen produce raiſed on it.

Having planted the trees, a ſtrong ſtick ſhould be thruſt down by each, to which it ſhould be faſtened with a baſs ſtring, to keep it ſteady in its place all winter; and in the ſpring it muſt be headed down to within five or ſix inches of the graft. As the tree grows in the ſummer, it muſt be trained into the form or poſition it is deſigned to aſſume, and all redundant ſhoots muſt be rubbed off as they are produced. Three ſhoots only will be wanted the firſt ſummer; and two of theſe muſt be nailed horizontally to the wall, as oppoſite as may be to the main ſtem, whilſt the third and uppermoſt ſhould be in a perpendicular direction towards the top of the wall. This is all the pruning neceſſary for this firſt ſummer; and the encreaſing the number of horizontals, and placing them properly, is the chief trouble this tree will require; for it is very hardy, and will not want a ſupply of young wood to fill up vacant ſpaces in the wall proceeding from decayed parts of the tree, like Peaches, Apricots, &c. In the ſecond ſummer, therefore, add two more horizontals to the tree; and if the fruit is large, let them be at leaſt twelve inches diſtant from each other; but for the middle-ſized fruit, ten; and for the ſmalleſt, eight inches will be ſufficient. The perpendicular ſhoot muſt be directed upwards; neither muſt any of the branches be ſhortened; but they muſt be permittted to range, and fill the wall as ſoon as poſſible. Having thus directed the upright and horizontals, other redundant ſhoots muſt be rubbed off; and the ſummer following the horizontals muſt be increaſed in the like manner; and this is all the pruning neceſſary for the tree: Though if it ſhould happen that the upright ſhould not throw out ſide-ſhoots low enough for horizontals, it may be ſhortened; the conſequence of which will be, the producing freſh ſhoots at any deſired height; and then two may be uſed for horizontals, and the third directed upwards as before. We may now ſuppoſe the tree to become ſtrong, and fit for bearing. The fruit is produced on ſpurs all along the horizontals, and alſo at the extremity of the branches; for which reaſon care ſhould be taken to preſerve the one, and not ſhorten the other; not only becauſe good bearing wood is often taken off by ſhortening the branches, but becauſe a number of uſeleſs ſhoots are produced, and the tree is ſtopped in its progreſs, whereas it ſhould be made to fill the wall as ſoon as may be. This muſt be done by a repetition of theſe rules; namely, by encreaſing the horizontals, and training the upright until you arrive at the top of the wall with the one, and extend to the utmoſt bounds with the other. Thirty feet diſtance we have ſuppoſed ſufficient for the trees; but as ſome of the ſtrong-ſhooting ſorts extend themſelves to that diſtance every way, That can hardly be allowed to be ſufficient; neither can any walls ſcarcely be ſaid to be tall enough for them to have their full range. We ſee them planted againſt the ends of buildings, and find them occupy the whole ſpace; and then what an amazing quantity of fair fruit will ſuch a tree produce! This ſhould direct us to take advantage of every ſuch convenience; that is, at the end of every building, let it be barn, ſtable, or what it will, to plant it with a Pear-tree. We need not regard the ſituation; for there are ſorts of Pears which will ſuit any of them. A Jargonelle, and many other Summer Pears, ſucceed extremely well againſt a north-wall, only they come in later; which to many is a perfection, if they have them earlier in a warmer ſituation in other parts of the garden. The baking Pears alſo diſdain no aſpect; for they thrive every-where, and are made ſerviceable in any ſituation.

Our trees being come into a good bearing ſtate, and having filled their wall, their after-management will be, to rub off all ſtrong, fore-right ſhoots, as they are produced in the ſummer. This will not only make winter pruning in a manner needleſs, but, by admitting the ſun and air, aſſiſt the ripening of the fruit, and cauſe it to be larger, fairer, and better-taſted.

Young Pear-trees are, for the moſt part, many years before they come to bear; and tho' they may bloſſom well in the ſpring, they are generally taken off; ſo that it is often ſeven, eight, or ten years before any conſiderable quantity of fruit is produced from ſuch trees. This ſhould make us value every old, neglected Pear-tree which may be found againſt a wall or building of any ſort: For theſe, like old Apricot-trees, when headed down and trained afreſh, will ſoon produce large quantities of fruit. If the ſort ſhould be ſuch as you don't like, the young ſhoots may be budded with any deſired kind; and theſe will produce fruit ſooner than young Pear-trees taken immediately from the Nurſery.

With reſpect to the borders, it will be neceſſary to keep them in good culture and heart; namely, by digging them, and improving them with well-rotted dung of any ſort; and raiſing on them only the ſmaller kinds of Kitchen Garden produce. But if there be no convenience of border, a perſon is not to be diſcouraged. I have known excellent fruit againſt buildings, as well as in orchards that have been conſtantly grazed, and the borders no other than turf. I have known them, when the border has been only a pavement or ſtone-cauſeway, and I found ſuch fruit equally good with thoſe produced on well-cultivated borders: Notwithſtanding this, a well-managed border certainly aſſiſts both trees and fruit of all ſorts, though the difference is leſs perceived in the Pear than perhaps in any other; ſo that it ſhould always be kept in good culture and good heart with ſuitable, well-rotted dung. And if a long ſeries of dry weather ſhould ſet in in the ſummer, the trees ſhould be watered, with four or five buckets of water to each, twice a week, to cauſe the fruit to become fair and good; and this watering is more eſpecially neceſſary for breaking Pears, and ſuch as are apt to become ſtony and gritty at the core.

Of gathering,

With reſpect to gathering of the fruit, it has been obſerved, that the Early Summer kinds ſhould be gathered a few days before they are ripe, and laid by to mellow; otherwiſe they will in part be ſpoiled by flies, waſps, inſects, &c. The Autumnal Pears muſt be gathered when they are ripe; which is known by their falling into the hand by a gentle twiſt of the ſtalk, and not by denting and bruiſing them with the thumb, as is too often practiſed. And as all the Pears on the ſame tree will not be ripe together, a perſon ſhould go over them in the moſt careful manner every day, gently handling them, and taking only ſuch as by a ſlight twiſt are diſlodged from their ſockets. This work muſt be repeated until the whole are gathered; all the while being careful to preſerve the ſorts diſtinct, and to label them in the ſtore-room, that when they are wanted for uſe, a copy of the labels may be affixed reſpectively to the different ſorts, when they are brought to table, that the company may be acquainted with their names, and know the real difference of the reſpective kinds of this valuable fruit.

The Winter Pears muſt hang on the trees as long as the weather will permit; that is, they muſt remain until there is little danger of their ſuffering from froſt, which ſeldom happens before the end of October; and if the weather is mild and open, they need not be gathered before the firſt or ſecond week in November. A dry day ſhould be choſen for the purpoſe; and they ſhould not be gathered before ten or twelve of the clock, that the dews being exhaled, and all external moiſture evaporated, the fruit may be in better condition for keeping.

This ſort muſt be kept ſeparate, and laid in heaps in a warm, airy room, and covered with a warm, woollen cloth to bring on the fermentation. When the ſweating is over, they ſhould be wiped clean with a flannel or woollen cloth; and when they are perfectly dry, they muſt be removed to their different apartments, to remain there until they be ripe, and ready for uſe; all the while being careful to book and preſerve the ſorts diſtinct, and when they are brought to the table accompanied with a label ſignifying the names, &c. as before.

and preſerving the fruit.

The way of preſerving this fruit is, (as will be ſhewn in the Chapter on Preſerving of Fruit) to put them up in cloſe baſkets, or to exclude the air from them in refined jars. Pears thus packed up, will certainly keep longer than ſuch as are expoſed to the open air, becauſe the air brings on putrefaction. But then it ſhould be conſidered, that the air, previous to putrefaction, brings on ripeneſs, and that theſe fruit, when laid on ſhelves in the open air, will be ripe a month, or ſooner than ſuch as are cloſely confined: So that whoever is deſirous of having his Winter Pears in eating as ſoon as poſſible, and continuing them as long as may be, ſhould always appropriate a ſhare of them to be placed on clean ſhelves in a neat, dry, airy room; and ſuch fruit will not only be ripe earlier, but better taſted, than that which has been cloſely confined; the confined fruit being for the moſt part muſty, and, though fair to the eye, the heightened flavour of their juices contaminated with the diſagreeable odour of ſtraw, hay, moſs, reſin, or whatever was appointed for their ſafeguard.

Hitherto we have ſuppoſed our Pear-trees to be againſt a wall or eſpalier. With regard to Standard Pears, they are uſually, like the Plum-trees, made thinly to occupy the borders and different parts of the orchard; and the manner of gathering and preſerving the fruit is ſimilar to ſuch as grow againſt the walls.

With reſpect to pruning Standard Pear-trees, it is no more than taking entirely off all dead branches, and ſuch as are cankered; alſo the worſt-placed of all ſuch as croſs each other, or grow too cloſe in the middle. This happens as ſeldom in the Standard Pear-tree as in any fruit-tree I know; ſo that the trouble they cauſe in keeping them in good order is trifling and inconſiderable.

CHAP. XVI.

PYRUS MALUS, The APPLE TREE.

THE Apple and the Pear Tree are of the ſame family, and, like brothers of one common parent, are only diſtinct ſpecies one from another. The variety of Pears has been ſhewn to be numerous; that of Apples is no ways inferior; or rather, we may ſuppoſe the number of good uſeful Apples to be much greater than that of Pears, or any other fruit. And if we conſider the various uſes of this fruit; its alimentary and medicinal qualities; its pleaſing reliſh in the different ſorts to the different guſts and palates of its admirers; and its long continuance in ſeaſon, which is all the year; we ſhall not only find the Apple to be more valuable than any other ſpecies of fruit yet known, but we ſhall adjudge it to be worth all the others put together.

My catalogue conſiſts of an hundred ſorts of this fruit: And having examined the orchards of the neighbouring towns and villages, there were hardly any of them but what afforded different, diſtinct, and valuable ſorts; inſomuch that I had reckoned up near three hundred different ſorts of Apples, including thoſe in my own nurſery, and ſuch as I found growing in the orchards of the neighbourhood.

To deſcribe Apples, or aſcertain their real differences, would be an endleſs as well as difficult taſk. They are nearly of the ſame ſhape, though they may differ in ſize; the fleſh of all is more or leſs firm and juicy; their taſte is briſk, having an agreeable acid finely corrected by a ſweet delicious juice, all cooling and abating thirſt; and when the acid prevails, and is too powerful for the ſweet, the fruit is ſour, auſtere, or ill-reliſhed; but ſuch apples are admirable for culinary purpoſes, or making of cyder: So that there is no ſort of cultivated Apples but what is good either for pleaſing of the palate immediately from the tree, or to be employed for roaſting, baking, or for cyder.

Notwithſtanding the number of different ſorts of Apples is ſo great, they are not all found to be of equal value. And as about ſixty different ſorts may be thought ſufficient for an extenſive orchard, I ſhall preſent the reader with a catalogue conſiſting of that number, beginning with thoſe which come firſt into uſe in the ſummer.

A Catalogue conſiſting of ſixty-two of the beſt, the moſt uſeful, and valuable ſorts are,

Cambridge Codling,

1. Cambridge Codling is one of the beſt Codling kinds, and is chiefly employed for ſauces, baking, &c.

Kentiſh FillBaſket

2. Kentiſh Fill Baſket is another ſort of Codling, but comes in later than the former, and is employed for the ſame purpoſes.

June Apple,

3. June Apple. Of this there are two or three ſorts, which differ in ſhape, and the time of ripening. One is a little long Apple, and comes in the earlieſt; the other is round, and of admirable flavour; and, though it comes later than the former, may be ſaid to be the firſt beſt Apple for the table we have in England.

Margaret,

4. Margaret is an oblong, ſtriped Apple, of the middle ſize; it is of looſer texture than the former, but highly flavoured, and ripens about the ſame time.

Summer Pearmain,

5. Summer Pearmain. Of this there are two or three ſorts, differing in ſize, colour, and time of ripening. The beſt is called the Summer Scarlet Pearmain; it is a middle-ſized, oblong, fruit, of a deep red colour, and good for the table and kitchen uſe.

Summer Ruſſet,

6. Summer Ruſſet is a roundiſh Apple, ruſſet-coloured on one ſide, and yellowiſh on the other. It is an excellent Summer Apple, but will not keep long.

Summer Pippin,

7. Summer Pippin is a roundiſh fruit, under the middle ſize, of a yellow colour, and full of a briſk, agreeable juice. It ripens about the ſame time with the former, and is a valuable Summer Apple for the table.

Summer Rembourge,

8. Summer Rembourge is a large Apple, beautifully variegated with red and yellow on the ſide next the ſun, but greeniſh on the oppoſite. The fleſh is tender, and ſo well taſted as to render it a valuable Apple.

Summer Calville,

9. Summer Calville is a fine large fruit, elegantly ſtained with red on the ſide next the ſun. It ripens ſoon after the former, and is in great requeſt for the table.

Summering,

10. Summering is a large, irregular Apple, often ſtriped with red. The fleſh is of looſe texture, but has an agreeable muſky flavour. It ripens the end of Auguſt, or early in September, and is well known by the common people, moſt of them having it in their orchards.

Loan's Pearmain,

11. Loan's Pearmain is a large, beautiful Pearmain, elegantly ſtained with red on the ſunny ſide, and often finely variegated on the other. It is not an extraordinary eating Apple, but is admirable for ſauces, and kitchen purpoſes.

Holt's Tranſparent,

12. Holt'sTranſparent is remarkable for its fine thin ſkin, and pellucid fleſh, which in ſome ſituations is more tranſparent than in others. Some people reliſh it as an eating Apple; but it is generally in diſrepute.

Royal Pearmain,

13. Royal Pearmain is a large, beautiful fruit, of a fine red next the ſun, and more or leſs elegantly ſtained with that colour on the oppoſite ſide. It is much reliſhed as an eating Apple by many, but is in moſt requeſt for kitchen uſe.

Grey Leadington,

14. Grey Leadington is a middle-ſized, longiſh Apple, of a greyiſh colour; the fleſh is firm, juicy, and of ſuch delicious flavour, that it is reputed among the beſt ſorts of eating Apples we have.

Red Autumn Calville,

15. Red Autumn Calville is a large, oblong fruit, of a deep red colour within and without. The fleſh is firm, of an agreeable, aromatic flavour, and the Apples are univerſally liked.

White Autumn Calville,

16. White Autumn Calville. The fleſh of this ſort is white, whereas the other is wholly red; but it is of a delicious flavour, and no way inferior to the former.

L'Api,

17. L'Api, or Apius's Apple, is a beautiful Apple of the ſmaller kind. The ſkin is thin, and of a bright red colour inclining to purple. The fleſh is ſoft, and full of a rich, perfumed juice; ſo that this Apple is in univerſal eſteem for the table.

Quince Apple,

18. Quince Apple is ſhaped like a Quince, is under the middle ſize, of a ruſſet-red colour on one ſide, and a yellowiſh-green on the other. The fleſh is tender, the juice briſk and agreeable; and the Apple is in univerſal eſteem during the time

of its being in perfection, which is generally the month of September, and rarely continues good much later.

Langton None Such, 19. Langton None Such is a large, beautiful Apple, finely ſtained, or variegated with red and yellow next the ſun, and of a greeniſh-yellow colour on the oppoſite ſide. The fleſh is tender, and full of a juice, which, in dry, warm ſituations, is ſo rich as to render the fruit equal to an orange in goodneſs. In cold, deep, and rich ſoils the fruit becomes very large, the juice copious, and the ſour overcomes the ſweet in ſuch great diſproportion as to edge the teeth, and gain diſrepute to the fruit: So that whoever is fond of this Apple for the table muſt allow the tree a dry, warm ſoil, and the fruit will be excellent about the end of September. This Apple is alſo the beſt for Kitchen purpoſes of any I know; and the tree being very hardy, and a great bearer, is, perhaps, as well worth propagating as any Apple in the known world; tho' the fruit does not continue long good; it becoming mealy in November, and rarely laſting longer than Chriſtmas.

Lady Thigh, 20. Lady Thigh. Of this apple there are many ſorts; but this in particular is deſerving of eſteem. It is a fine taper fruit, ſhaped ſomewhat like the Cuiſſe Madame Pear; and the ſkin is ſoft, ſmooth, and of a fine red colour next the ſun. The fleſh is firm, juicy, and agreeable. It is in eating in October, and will continue good two or three months.

Virgin Apple, 21. Virgin Apple is a beautiful red Apple, ſomewhat long, and of the middle ſize. It is greatly admired as an eating Apple, and deſerves a place in every collection of fruit-trees.

Courpendu, 22. Courpendu is a beautiful Apple, ſomewhat above the middle ſize, of a deep red or purple colour on one ſide, and of a pale red on the other. The fleſh is tender, the juice ſweet and agreeable, and it is univerſally liked.

White Rennette, 23. White Rennette is a large, roundiſh fruit, of a white or yellowiſh-green colour, frequently ſpotted with greyiſh ſpots. The fleſh is firm, juicy, ſweet, and good; and the fruit is admirable for the table or kitchen uſe.

Golden Rennette, 24. Golden Rennette is a middle-ſized, roundiſh Apple, of a dark yellow colour, ſtained more or leſs with ruſſet or red on the ſide next the ſun. The fleſh is firm, but tender, juicy, and delicious; and the fruit is admirable for baking, as well as eating raw. It is in perfection through November and great part of December, but ſeldom much longer.

Rennette Griſe, 25. Rennette Griſe is ſhaped like the former, but is of a grey colour on the ſunny ſide. The fleſh is tender, juicy, briſk, and agreeable; and the fruit comes into eating in October.

Golden Pippin, 26. Golden Pippin is a beautiful little Apple, of a yellow colour, ſpotted with brown or reddiſh ſpots. The fleſh is firm, and not very juicy; but the ſour and the ſweet are ſo admirably blended, and heightened with ſuch a richneſs of flavour, that this Apple puts in its claim to pre-eminence, and contends for being the beſt Apple in the known world. It is in eating in October, and frequently continues good until the ſpring.

Aromatic Ruſſet, 27. Aromatic Ruſſet is a middle-ſized fruit, of a ruſſet colour on the ſunny ſide, but of a yellowiſh-green on the ſide oppoſite. The fleſh is breaking, and of ſuch an agreeable aromatic flavour as to gain univerſal eſteem. It ripens in October, and continues good great part of the winter.

The Aniſe Apple, 28. The Aniſe Apple is a longiſh, middle-ſized fruit, of a greyiſh colour. The fleſh is tender, and poſſeſſed of the ſpicy taſte of aniſeed.

Margil, 29. Margil is a middle-ſized, irregular fruit, ſomewhat ridged, and finely variegated with red ſtripes. The fleſh is finely perfumed, and the Apple is in general eſteem.

The Violet Apple, 30. The Violet Apple is a beautiful, moderately large Apple, of a deep red colour next the ſun, and finely variegated on the other parts. The fleſh is firm, the juice ſweet, and poſſeſſed of the agreeable odour of Violets. This is often confounded with the Red Autumn Calville, that fruit being frequently underſtood to be the Violet Apple, by the fleſh being finely aromatic, and poſſeſſed in ſome meaſure of the flavour of Violets.

White Kentiſh Pippin, 31. White Kentiſh Pippin is a middle-ſized fruit, nearly round, and poſſeſſed of a thin, whitiſh ſkin. The fleſh is tender and juicy, and in ſome ſeaſons is of exquiſite delicious flavour; in others it is better adapted to kitchen uſes than to the table. It is ripe in October, and continues good all winter.

Kirton Pippin, 32. Kirton Pippin is a middle-ſized, roundiſh fruit, and ſo often cracked on the ſurface, as to gain it the appellation of the Cracked Pippin. The fleſh has a delicious flavour, and is univerſally admired.

Lemon Pippin, 33. Lemon Pippin is a ſmalliſh, round Apple, of a yellow colour, and full of a quick, agreeable juice. It is in eating in October, and continues good all winter; but as the juice is too ſharp for many palates, it is ranked among the kitchen-fruit.

July-Flower Apple, 34. July-Flower Apple is a beautiful, middle-ſized Apple, of a fine, ſoft, red colour on the ſunny ſide. The fleſh is tender, ſweet, and delicious, and the Apple is in general eſteem.

Ten Shillings Apple, 35. Ten Shillings Apple is a large, roundiſh fruit, beautifully variegated with a red and pale-yellow colour. The fleſh is firm, but juicy and agreeable, and is in eating from October until the ſpring following. From its ſuppoſed ſuper-excellence, the name Ten Shillings was quaintly given to this Apple.

Holland Pippin, 36. Holland Pippin is a very large, oblong fruit, having the eye much ſunk in at the top. It is of a greeniſh-yellow colour when ripe, and eſteemed by many as an eating Apple; but it is univerſally admired for kitchen uſes. Its ſeaſon commences in October, and continues throughout the winter, and the ſpring following.

Monſtrous Rennette, 37. Monſtrous Rennette is a monſtrous large, oblong Apple, of a deep red colour on the ſunny ſide, but a yellowiſh-green on the other. It is in little eſteem as an eating Apple, but is uſeful for pies, and other culinary purpoſes.

Salmon Apple, 38. Salmon Apple is a middle-ſized, longiſh Apple, of a bright red colour on one ſide, and yellowiſh on the other. The fleſh is tender, juicy, and agreeable; and the fruit is in eating all winter, and the ſpring following.

Royal Ruſſet, 39. Royal Ruſſet is a very large, oblong Apple, poſſeſſed of a deep ruſſet-coloured rough ſkin. The fleſh is firm, of a yellowiſh colour, and but ill-reliſhed to the taſte; ſo that it is chiefly employed for kitchen uſes; for which purpoſes it is ſaid by many to be exceeded by no other. It is in ſeaſon in October, and continues good all winter, and the ſpring and ſummer following.

Wheeler's Ruſſet, 40. Wheeler's Ruſſet is a roundiſh, ruſſet-coloured Apple, of the middle ſize. The fleſh is firm, briſk, and agreeable; and the Apple is in requeſt both for the table and kitchen uſes. It continues good throughout the winter, and the ſpring following.

41. Aclemy

Aclemy Ruſſet,

41. Aclemy Ruſſet is a middle-ſized, roundiſh, ruſſet Apple, in ſeaſon for the table or kitchen all winter, and the ſpring following.

Pile's Ruſſet,

42. Pile's Ruſſet is an oblong, oval Apple, rather under the middle ſize, of a ruſſet colour next the ſun, and a dark green on the other. The fleſh is firm and juicy, but ſo ſour as to be ſeldom employed otherwiſe than for kitchen uſes.

Old Nonpareil,

43. Old Nonpareil is a middle-ſized, roundiſh fruit, of a duſky ruſſet colour on the outſide. The fleſh is firm, and full of a ſharp but pleaſing juice. This Apple is in eating from December until May, and is thought by many ſuperior to,

New Nonpareil,

44. The New Nonpareil. This is a very large, fair, roundiſh fruit, of a ruſſet colour on one ſide, and a dark-green on the other, and grows on a long, ſlender footſtalk. The fleſh is tender, but breaking, and the juice remarkably briſk and agreeable; and being larger, and a more beautiful Apple than the former, was received as a valuable variety of the Nonpareil, and became more generally cultivated. It is in eating the end of December; but, as the ſpring advances, it becomes fungous, ill-taſted, and rotten at the core; on which account it has in ſome meaſure loſt its credit, and the Old Nonpareil is by many better eſteemed. It is, however, a moſt valuable fruit, the juice being copious, briſk, and delicious; and it ſhould always be eat before the fine flavour is abated by too long keeping.

Embroidered Apple,

45. Embroidered Apple is an elegant fruit, above the middle ſize, finely variegated with broad red ſtripes. The fleſh is no ways extraordinary for eating, neither is it ranked among the beſt for baking, though it is uſeful in that reſpect; but being of admirable beauty, it is worthy of a place among the valuable Apples.

Kitchen Rennette,

46. Kitchen Rennette is a large, beautiful Apple, admirably adapted to anſwer every end of kitchen uſe.

Winter Pearmain,

47. Winter Pearmain. Of this ſpecies there are many ſorts, the beſt of which is rather above the middle ſize, finely ſtained with red on the ſunny ſide, frequently ſpotted, and ſomewhat variegated with red and yellow on the other. It is in ſeaſon all winter, but is in no great requeſt either for eating or baking.

Gray's Pippin,

48. Gray's Pippin is a large, fair, roundiſh Apple, of a ruſſet-grey colour on one ſide, and greeniſh on the other. The fleſh is firm, but ſomewhat tender, and the juice no ways ſour nor ſweet, but conſtituted of an agreeable mixture of thoſe two reliſhes. The fruit is in eating all winter, and great part of the ſummer following.

Lord Iſlay's Pippin,

49. Lord Iſlay's Pippin is a middle-ſized, roundiſh fruit, good for the kitchen or the table, and is in ſeaſon all winter, and great part of the ſummer following.

Spencer's Pippin,

50. Spencer's Pippin is a middle-ſized, roundiſh fruit, of a browniſh colour on one ſide, and a yellowiſh-green on the other. The fleſh is firm, juicy, well-taſted, and is in ſeaſon all winter, and the ſpring following.

Sir Charles Wager's Apple,

51. Sir Charles Wager's Apple is a moderately large Apple, ſtained with red on the ſunny ſide, but of a yellowiſh-green colour, when ripe, on the other. The fleſh is firm, well-taſted, and agreeable to the reliſh either raw or otherwiſe.

Coſtard,

52. Coſtard is a large, irregular Apple, finely ſtriped with red, eſpecially on the ſunny ſide. The fleſh is tender and juicy, but not very agreeable to the palate. This Apple is in univerſal requeſt for baking, and affords the beſt ſauce yet known for a gooſe, roaſt pork, and the like ſavoury meats.

Frank Rambour,

53. Frank Rambour is a large, round, red Apple. The fleſh is very hard, and the juice is no ways agreeable until the ſpring of the year, when the Apple comes into ſeaſon, and continues good either for the table or kitchen uſe all ſummer.

Stone Pippin,

54. Stone Pippin is a moderately large fruit, of a white colour, having a firm fleſh, and a ſomewhat auſtere and unpleaſant juice when eat raw; nevertheleſs, the fruit is in great eſteem for baking, and continues good all winter, ſpring, and the ſummer following.

Dr. Bernard's Apple,

55. Dr. Bernard's Apple is another large baking Apple of the firſt claſs. The tree is a good bearer; and the fruit is in ſeaſon great part of the year.

Partridge Apple,

56. Partridge Apple is another Apple compoſed more for the kitchen than table uſe. It is a well-known fruit, and is generally propagated by thoſe who raiſe Apples for ſale.

Eyres's Greening,

57. Eyres's Greening. I have received two or three Apples by this name. One becomes mealy by February, and is of little value; but the other is in eating all the ſpring, and the ſummer following. It is a middle-ſized, green fruit, juicy, and ſo delicious, that I know none which exceeds it: It bakes alſo admirably well; and being of a green colour in that ſtate, is much coveted by nice cooks.

Winter Greening,

58. Winter Greening is a very large, green Apple within and without. It is not a bad eating Apple, but is chiefly coveted by cooks for its baking green. It is in ſeaſon all winter, and the ſummer following.

Winter Pippin,

59. Winter Pippin is a middle ſized, roundiſh, firm fruit, and is good both for the table or kitchen uſe all winter, and the ſummer following.

Black Pippin,

60. Black Pippin is a very large Pippin, of a dark, blackiſh, mottled-green colour on the outſide. The fleſh is remarkably firm, and the juice good. This Apple is ſerviceable either for the table or kitchen uſe until others come in again.

Old Peg,

61. Old Peg is a large, irregular, ridged, ſulcated Apple, of a green colour. It is not a bad eating Apple, but is chiefly employed for ſauce; and the tree growing large, and being hardy, and a great bearer, is ſought for by thoſe who raiſe Apples for ſale.

and Nutmeg Apple deſcribed.

62. Nutmeg Apple. I ſhall cloſe this liſt with the Nutmeg Apple—a fruit ſmaller than the Golden Pippin, and narrower at the top. The colour of the fruit varies much from the ſame tree; inſomuch that ſome are of a fine ruſſet-colour on one ſide, and yellow on the other; ſome red, with yellow on the oppoſite ſide; ſome wholly red, ſome totally yellow, and others green. The fleſh is firm, tender, and not very juicy; but is ſweet, and of a fine aromatic odour. It is an agreeable fruit in October; but the true flavour commences in the ſpring, before which time it can hardly be ſaid to be in eating; and from that period it continues ſound and good, ornamenting the deſſert by the variety of colours it aſſumes, and pleaſing the palates of all lovers of the ſweeter kinds of muſky, perfumed fruits, until others come in again.

This liſt contains a ſufficient number of Apples both for the table and kitchen uſes the whole year; ſo that to mention any more would be needleſs; tho' the valuable ſorts to be met with are almoſt endleſs. Neither is it neceſſary to deſcribe the various ſorts of Wildings which are careſſed with great care by many people. Theſe are raiſed from kernels, and aſſume the appearance of the moſt beautiful Apples ; and having the uncorrected flavour of the cultivated apples, are called Wildings ; and, perhaps, are as good as any ſorts we have for ſauce, pies, and tarts.

Neither is it at all neceſſary to deſcribe the various ſorts of Cyder Apples, their juices being for moſt part uncorrected, rough and auſtere, and fit for few purpoſes but thoſe for which Nature deſigned them ; ſuch as the Red Streak, Royal Wilding, Woodcock, Gennet Moyle, Everlaſting Hanger, &c. &c. Theſe, with numerous others of the like properties, are well known in Cyder countries, to which their culture ſhould be confined, and where they afford good cyder ; but in unſuitable ſoils and ſituations the cyder produced from them is good for little. I never yet met with good cyder made in Leiceſterſhire, Rutlandſhire, and the adjacent parts. Nay, I hardly ever knew any to be tolerable, though the greateſt art has been uſed in making it from the moſt ſuitable ſorts of apples : And moſt perſons who drank it agreed with Phillips in ſaying,

————wretched he that quaffs
Such wheyiſh liquors ; oft with cholic pangs,
With pungent cholic pangs diſtreſs'd, he'll roar,
And toſs, and turn, and curſe the unwholeſome draught.

Having warned my readers from attempting to raiſe Cyder-trees for the ſake of that liquor in countries where Nature never deſigned it to be produced, I proceed now to the raiſing of the various kinds of Apples before deſcribed ; as alſo all others of the like tendency for the table and kitchen ſervices.

Directions for raiſing the various kinds of apples.

Apples are raiſed by grafting on Crab-ſtocks, Codlin, or Paradiſe Apple-ſtocks. The firſt are in moſt general uſe for ſtandards and dwarfs ; the latter, when they are deſigned to be confined within a narrow compaſs, and to produce plenty of fruit.

Of raiſing ſtandard and dwarf apple-trees,

Codlins grow from cuttings, and Paradiſe-ſtocks are raiſed by layers. Theſe ſhould be performed on the young ſhoots in the autumn ; and if they are kept clean from weeds, and duly watered in dry weather the ſucceeding ſummer, they will ſtrike good root, and will be fit for planting out in the nurſery-way the autumn following ; and when they are grown to the thickneſs of a good gooſe-quill, which will be in one year after, they will be fit for receiving the various kinds of grafts deſigned them.

Crab-ſtocks are raiſed from the kernels of Crabs, which ſhould be ſown the latter end of the autumn, or early part of the winter, ſoon after the crabs are ripe. They muſt be ſown in the Seminary, in beds of well-prepared earth, and covered down with about half an inch depth of the fineſt mould. Alleys ſhould be made between the beds in the uſual manner, and the whole ſhould be neated up, and every kernel well covered, to prevent mice from knowing their ſituation ; for if theſe once find them out, they will deſtroy the greateſt part of them before ſpring, unleſs more than uſual care and trouble is uſed in deſtroying them with traps or poiſon.

If a dry ſpring ſhould happen, the beds ſhould be now and then watered ; and this will cauſe the ſeedlings to riſe ſtrong from the latent dwellings. The uſual care of keeping them clean from weeds, and watering in dry weather, muſt attend them all ſummer, and in the autumn they will be proper ſtocks for the nurſery.

The nurſery-ground muſt be well-prepared by double-digging ; and the ſtocks having the down-right root ſhortened, muſt be planted in rows a foot aſunder, the rows being at two feet diſtance from each other.

The ground muſt be kept clean from weeds the ſucceeding ſummer, and the intervals ſhould be dug in the autumn ; and in the ſpring, if the ſtocks have ſucceeded well, they will be fit to graft ; nevertheleſs, if they are rather weak, it will be better to let them remain another year, eſpecially if they are deſigned for ſtandards, as they will then be powerful, and more able to ſend forth a ſtrong, vigorous, upright ſhoot for the purpoſe.

The ſucceſs of theſe ſtocks is greater than any others I know. Graft them how you will, and in almoſt what ſeaſon you pleaſe, they will hardly ever fail. They may be grafted late in the ſpring, though it would be better not to defer the work later than the middle of March ; and Whip-grafting is the uſual and beſt method of practice for theſe ſtocks. In the autumn, thoſe deſigned for dwarfs will be fit to plant out ; but thoſe intended for ſtandards muſt be trained up to one upright ſtem. The ground between the rows in the winter muſt be dug, and the weeds deſtroyed as they ariſe in the ſummer ; the trees will then, in about two years, ariſe healthy and ſtrong to ſeven or eight feet high. They muſt all be now headed regularly down to within ſix feet of the ground, and the ſucceeding ſummer they will form the head. To make this the more ſtrong, all ſide-ſhoots ſhould be rubbed off as they are produced from the ſtem, and only any deſired number of branches left at the top to form the head of the tree. By the autumn this tree will be a moſt perfect ſtandard Apple tree, (for it will get worſe by ſtanding in the nurſery-ſtate) and ſhould then be planted out in the place appropriated for it.

and how to plant them out for good.

Having thus raiſed our dwarf and ſtandard Apple-trees, we muſt now proceed to plant them out for good. And firſt we will begin with the dwarfs. Theſe are generally trained in eſpaliers arranged along the inner and croſs borders of the Kitchen Garden. The border ſhould be well prepared by good digging ; the roots of the tree ſhortened, and the top headed to within ſix or ſeven inches of the graft ; and they ſhould be planted carefully at diſtances according to their natures, and that of the ſtocks they poſſeſs ; that is, if they have Paradiſe Apple-ſtocks, they need not be more than fifteen feet diſtant from each other. If they are the ſmaller growing ſort of apple-trees on crab-ſtocks, ſuch as the Golden Pippin, Codlin, Apius's Apple, Quince Apple, Holt's Tranſparent, &c. they need not be allowed more than eighteen feet ; and if other larger growing trees, twenty-one feet will be a ſufficient diſtance for them to be from each other. I know a much greater diſtance has been directed for theſe trees ; but ſuch ſhould conſider what a long time the eſpalier is in filling, and how much ground remains unoccupied, as well as the unſightly appearance ſuch ſtraggling trees make, before they have ſo nearly approached each other as to cauſe ſome uniformity in the eſpalier.

The above diſtance, therefore, will be ſufficient not only for theſe reaſons, but many of the trees will probably canker and go off, eſpecially if the ſoil be ſtrong and damp, or the bottom of it be clayey or rocky. In the firſt ſort of ſituation, the canker generally ſeizes the branches in different parts; and theſe muſt be then wholly taken out: In the latter, the trees ceaſe from their vigorous growing, and die gradually, when the roots come to the bottom of the border. But when it happens that all the trees prove vigorous, healthy, and ſtrong, and they begin to touch and incommode each other, then every other may be taken away, and the trees will be at no greater diſtance than what ſome gardeners have directed for their firſt planting; and during all this time the trees taken out will have benefited you with their annual produce of fruit, pleaſed you by the uniform and compact appearance they have given to the eſpalier, and now will be otherwiſe uſeful, being taken up, namely, for the fire.

How to train them properly.

Having thus planted our eſpalier with Apple-trees, the next thing is to train them properly. And for this, if the eſpalier wood-work is made and placed for the purpoſe, the firſt thing to be done is to faſten the lateral ſhoots horizontally with ſome ozier twigs, or baſs ſtrings, as they are produced in the ſummer, leaving one to direct its courſe upwards: Two horizontals will be ſufficient for the firſt ſummer; and their number muſt be afterwards encreaſed according to the ſtrength of the tree, placing them at a greater or leſſer diſtance, in proportion to the ſize of the fruit, which ſhould be this; nine inches for the largeſt fruit, and not leſs than ſix for the ſmalleſt. The branches ſhould at no time be ſhortened, but ſhould be directed to approach the adjacent trees as faſt as may be. All fore-right luxuriant ſhoots muſt be rubbed off as they are produced, every ſummer; and this is all the pruning neceſſary for an Apple-tree in the eſpalier, unleſs when decayed or cankered branches muſt be taken off, or that a vacant place wants filling; then a contiguous branch muſt be ſhortened, to throw out freſh wood to ſupply the defect. More than this would produce confuſion, by multiplying the branches too much, as well as cauſe a dangerous conſequence; it being too often found that the knife is ſucceeded by cankered parts, diſeaſes, and death. If the eſpalier is not erected at firſt, (for which there is no great neceſſity, unleſs when it is thought ornamental) ſtakes may be thruſt down to ſupply its place. The trees may be trained up to theſe; and this practice may be purſued for about three years, when the ſtakes may be taken away, and the trees faſtened to the lattice or wood-work made to ſupply their place.

The wood-work is of different degrees of goodneſs, according to the taſte of the owner, or the expence he would chooſe to go to. The meaneſt is that of ſtraight ſtakes thruſt into the ground at the diſtance of one foot from another, ſawed level at the top, ſix or ſeven feet high from the ground, and kept ſteady in their places, by a ſuitable ſlip of boards arranged along the top the whole length. The next is, when beſides the uprights at one foot diſtance from each other, others are made to croſs them ſo as to form in the whole a regular piece of lattice-work. Theſe are generally made of any wood, as it ſhall happen; but unleſs it be made of oak, it is generally rotten, and gone before it has performed its intended office for the trees. The laſt, but more expenſive, is that made of regular ſquare pieces of heart of oak, in the lattice form, and well painted by an artificer. Theſe may be ſet down at the firſt planting of the trees, and they will be ornamental from the beginning, until ſuch time as they become covered with their tree arrived to their perfect ſtate.

Having ſaid thus much of planting the eſpalier, it might be expected that I ſhould ſay ſomething of planting and training theſe trees ſingly in a low or or dwarf ſtate. But the evils attending this practice being found to be numerous; and the great violence offered to Nature to keep them in that ſtate, the unſightly figure of their horizontals and their diſked tops, the inferior goodneſs of the fruit to that of the eſpalier, which is indeed ſtill inferior to that of the ſtandards; all theſe reaſons have occaſioned this method to be totally diſuſed: So that I proceed now to the planting out the ſtandard-trees for the orchard.

Of planting out ſtandard apple-tres for the orchard.

And for this, the firſt thing to be pitched on is the ſituation, which ſhould be neither too high nor too low, but in ſuch a medium as to be out of the reach of the damps and cold vapours of the one, and the violent and impetuous winds of the other: The former ſituation frequently makes great havock; but in the more elevated, expoſed places, the devaſtation is the greater at the end of ſummer, when the fruit is nearly ripe. As to the ſoil, any will do except ſtubborn, damp land, ſuch as is ſtarved in winter, and cracks in ſummer; for in ſuch the fruit is ill-taſted, and the trees canker, and come to little. In hot, gravelly ſoils, they make but little progreſs; and in kalely, rocky ground, they will not live. Theſe three ſoils being excepted, no other reaſonable objections can be made to any other ſoil for the orchard; though a fine loamy earth, with a ſlight mixture of ſand, in a dry healthy place, is the beſt. The next thing to be conſidered is the preparation of the land for the reception of the trees. This ſhould be by double-digging the whole ſpot; ſo that by throwing the turf and beſt of the ſoil low, the roots may be better ſupplied with good nouriſhment to cauſe the trees to grow healthy, ſtrong, and the ſooner commence good bearers. The land ſhould then be uſed as a Kitchen Garden for four or five years, dunging it every year to bring the ſurface into good heart. Next it ſhould be laid down with graſs-ſeeds, and afterwards be kept conſtantly grazed with ſheep and ſmall cattle. There is not an abſolute neceſſity for double-digging the ground, nor uſing it as a Kitchen Garden: This is only directed with a view to ſave the charge of cradling the trees, as they will be able to defend themſelves in four or five years. Where wood is plentiful, the ground need not be broke up, but wide, tho' not deep holes may be made, working the turf to the bottom; and then, if the trees are well cradled, the land may be grazed immediately.

The next thing to be conſidered is the diſtance at which the trees ought to be planted; and twenty-one feet, upon a medium, for the different ſorts is found to be ſufficient. If the trees commence the moſt vigorous growing ſtate, they will not be many years before they become too cloſe; and when this comes to paſs, here and there one may be cut down, or a large arm may be occaſionally taken off, and a proper thinning made to give due air to the orchard: But this thinning will be hardly ever wanted in any great degree; for ſome of the trees will not grow large, others make ſlow progreſs, loſing part of their arms and ſtrong branches by canker and accidents, and others will die; ſo that, upon the whole, twenty-one feet is a very proper diſtance for theſe trees to be planted from each other.

What an enormous diſtance is directed by ſome writers on this ſubject! "Twenty yards aſunder they ought to be planted from each other, (ſay they) and the ground kept in tillage." Indeed where the ground is to be kept in tillage, as in the Cyder countries, twenty yards, or a greater diſtance, would be proper; but then this is not an orchard, but a field. And, indeed, a very extenſive field it ought to be, to have any conſiderable quantity of this fruit: For ſix or ſeven hundred trees in the different ſorts, which cannot be ſaid to be too many for a large orchard, if planted at that diſtance, would carry an orchard at an hundred yards in breadth, which is generally thought to be a pretty good breadth for an apple orchard, to near two miles in length. But the folly of this is ſo apparent, that it needs not expoſing. Theſe authors conſidered the ſpreading breadth of the largeſt full-growing Apple-trees arrived at their utmoſt magnitude, and then gave directions for the diſtance at firſt to be accordingly; not reflecting that it would be more than an age before the moſt flouriſhing would come to their full growth, and that by far the greateſt part would never arrive at this fancied height at all.

Let, therefore, the trees be planted at the diſtance I have directed, (unleſs the land is deſigned for a tillage field, as in the Cyder countries) and your orchard will be beautifully compoſed of a ſuitable number of trees at the firſt, which will very early begin to afford you fruit; and their number being pretty conſiderable upon no very large ſpace of ground, you will be the better ſupplied with fruit during the infant ſtate of the orchard: All the while they will protect one another from the inſults of the winds, which cauſe great devaſtation in all orchards; but particularly about the outſide trees, and ſuch as grow ſingly; the ground is ſtrewed with the fruit, which is generally the largeſt and beſt, and the gleanings only left on the tree for the owner's advantage; which is another very good reaſon for planting theſe trees as near as can poſſibly be allowed, that ſuch kind of loſs may be averted, and the better chance of a full crop ſecured to the owner. And when it ſo happens that the trees begin to crowd and incommode each other, they ſhould be thinned; and the cut-down trees will not only have ſupplied you with fruit for a large term of years, but they will be now further uſeful, by ſupplying you with good fuel for the fire.

Having conſidered the ſoil, ſituation, and diſtance for the trees, proceed we now to their planting out. The ſeaſon for this work is any time in the autumn, winter, or early part of the ſpring; though the autumn, if any time, is preferable. The trees muſt be carefully taken out of the nurſery, and when brought to the intended plantation, all bruiſed and broken parts of the roots ſhould be entirely cut off; and they ſhould be headed in ſuch a manner, that the top and root may bear a due proportion to each other. They ſhould be then planted with the greateſt care, putting the fineſt mould to the roots, and ſhaking it well to ſettle it to the different parts, and preſſing it gently down with the foot. This being done, the trees ſhould be ſtaked, to prevent their being diſplaced by the winds, and ſome inverted turf laid round the root; not with a deſign to keep out the froſt, for Apple-trees are impregnable againſt our ſevereſt weather; but with a deſign to be well ſettled, and to keep the ground cool, ſhould much dry weather happen the ſucceeding ſummer.

From this period your orchard will require little or no trouble, except in gathering the fruit; for the pruning of ſtandard Apple-trees is trifling and inconſiderable: It conſiſts only in cutting out all cankered and decayed branches, and ſuch as croſs, crowd, or anyways incommode each other, to grant a free admiſſion of the ſun and air. Grubbing up the ſuckers alſo as they ariſe, is an indiſpenſible duty, and rubbing off the moſs as it ſhall be produced, the better to keep the trees in a healthy ſtate.

Of gathering and preſerving the fruit.

With reſpect to the gathering of the fruit, the ſummer kinds ſhould be gathered as they ripen; the autumnal ſorts about the end of September. But the winter Apples ſhould hang on the trees until the middle of October, or later, if there appears no danger of froſt. In gathering them, the greateſt care ſhould be taken to bruiſe none of them; and when this happens, to throw ſuch among the fallings. The middle of a dry day ſhould be choſen for the purpoſe, or not ſo early in the morning that the ſun has not had time to evaporate the dews, or diſperſe the miſts: And after they are gathered, they muſt be laid in a dry, airy place, keeping the ſorts diſtinct. Here they will exude moiſture, which is called Sweating. This muſt be carefully wiped off with a clean flannel, or woollen cloth; and when the ſweating ceaſes, which will be in about three or four weeks, and the fruit is perfectly dry, they muſt be removed to their ſeparate apartments in the Fruitery, to be ready for uſe as they ſucceed each other in ſeaſon; packing up ſome of the beſt ſorts in large, clean, dry jars, and confining them down very cloſe, that having the external air excluded, they may be preſerved longer, and preſented fair at the table until the ſeaſon of Apples returns.

CHAP. XVII.

PYRUS CYDONIA, The QUINCE TREE.

ANOTHER ſpecies of the Pear or Apple is the Quince-tree, a well-known fruit, there being hardly a palate to be found, which can reliſh the taſte of a raw, though ever ſo ripe and fair Quince; but they are employed for baking, and made into marmalade to join the Apple in pies and tarts, to which they give a remarkable richneſs and heightened flavour, far beyond what the very beſt ſorts of that fruit could otherwiſe have had.

There are ſome varieties of Quinces, though they fall vaſtly ſhort of the number of thoſe of the Apple or Pear; which ſhews that it is leſs uſeful, the all bountiful Author of Nature kindly beſtowing on his creatures thoſe ſorts in greateſt variety and abundance, which poſſeſs a property that tends to render them more ſerviceable, and of general uſe. And, indeed, as the ſervice of the Quince is confined to a very ſmall latitude, one ſort alone would be ſufficient to anſwer the purpoſe; nevertheleſs, we have them in different forms, to add variety to the Garden, and to occaſion great diverſity of beauty, as well as to ſerve for the common purpoſes of marmalade, and the enrichment of pies and tarts. The different kinds of Quinces go by the reſpective names of,

Species.

1. Apple Quince.
2. Pear Quince.
3. Broad-leaved Portugal Quince.
4. Barbary Quince.
5. Lyons Quince.
6. Brunſwick Quince.
7. Cottony Quince.
8. Eatable Quince.

Apple Quince,

1. Apple Quince is a large, but ſhort, roundiſh fruit, nearly in ſhape of an Apple. It is of a fine golden-yellow colour when ripe; the fleſh is tender, ſoon boiled, and it is ranked among the beſt ſorts of Quinces.

Pear Quince,

2. Pear Quince is a large, fair Quince, in ſhape of a Pear. Its colour is a deep yellow when ripe, and it is ſaid by many to be ſuperior to the former.

Broad-leaved Quince,

3. Broad-leaved Portugal Quince is a larger-growing tree than either of the former, and the leaves are broader, and of an oval figure. The fruit is ſhaped like a Buree Pear, and is about the ſame ſize. The fleſh is tender, and of a fine purple colour when baked or ſtewed.

Barbary Quince,

4. Barbary Quince is a ſmall Quince, but ſaid to be equal in goodneſs to any of the other kinds.

Lyons Quince,

5. Lyons Quince is a large Quince of a golden-yellow colour when ripe. The fleſh is tender, ſtews well, and then becomes finely flavoured, and of a fine purple colour.

Brunſwick Quince,

6. Brunſwick Quince is a large Quince of a white colour; but is ſaid to be of inferior goodneſs to moſt of the other kinds.

Cottony Quince,

7. Cottony Quince. This is ſometimes called the Engliſh Quince. It is of the middle ſize, and the ſkin is covered all over with a white, cottony down. It makes variety among Quinces, but is of inferior goodneſs to any of them.

and Eatable Quince, deſcribed.

8. Eatable Quince is a middle-ſized Quince, covered with a white down. The fleſh is tender, but auſtere; and though it is called an eatable Quince, I believe there are few palates which can reliſh it raw.

Quinces are very eaſily propagated by cuttings, layers, ſuckers, grafting, and budding on their own or Pear-ſtocks; but as by the firſt method they may be encreaſed in amazing plenty, it is the only one uſed for the encreaſe of theſe trees.

Culture.

The cuttings may be planted any time in the autumn, winter, or early part of the ſpring, tho' the autumn is preferable. The ſoil ſhould be deep and rich, and made fine by well-digging; and the cuttings ſhould be ſet in rows very cloſe together. In the ſpring, when the weeds ariſe, they muſt be ſeduloully picked out; and this work muſt be repeated all ſummer: In dry weather alſo the cuttings muſt be watered, and it will cauſe them to form their ſummer ſhoots more vigorouſly and ſtrong. In the autumn, ſuch as have grown well ſhould be ſet in rows in the Nurſery, a foot aſunder, the rows being at an interval of two feet; and by the autumn following the remaining plants will be fit to ſet out in the like manner. As they grow in the ſummer, they muſt be trained up to a ſingle ſtem; and this may be ſtopped at any deſired height to form the head. If they are deſigned to be planted in the orchard, the ſtem ſhould be ſix feet from the ground; if for other purpoſes, they ſhould be accordingly. When they are ſet out, they ſhould have a rich, deep ſoil, ſomewhat moiſt; and their after-pruning will be only to take out irregular branches, and ſuch as incommode the others, and tend to keep the heads too full.

There are perſons who train Quinces in eſpaliers; but this is a method not worth practiſing, conſidering the trouble they occaſion, the expence of the wood-work, and the ground they take up; for there is no neceſſity of planting Quinces among the eatable fruit, as it is not ſo until it has paſſed the fire; neither am I for allowing them a place in the orchard for any other reaſon than that of exhibiting the amazing variety of fruit all together; for being ſo little tempting to the taſte, they may be planted in back yards, or places at a diſtance, without fear of being robbed by boys or common people.

Quinces have been in great requeſt as ſtocks for Pears, but this method I very little approve of; for the trees are generally ſhort-lived, and the fruit ſtrong and gritty at the core; ſo that if ever it is practiſed, it ſhould be only of the beſt kinds of Melters, to keep them low, and the better trainable in a dwarf ſtate.

CHAP. XVIII.

MORUS, The MULBERRY-TREE.

OF theſe there are many ſorts, the principal of which are,

Species.

The Black Mulberry.
The White Mulberry.
The Red Mulberry.

Their uſes and properties.

The Red Mulberry is ſcarce at preſent, and no ways comparable to the Black; and though the fruit of the White is tolerably good, yet it is inferior to that ſort, and is chiefly raiſed for the ſake of the leaves and young ſhoots for the feeding of ſilk-worms: So that the Black Mulberry muſt be chiefly raiſed for the fruit, whilſt one or two of the other ſorts for variety may be ſufficient, unleſs they are raiſed for the ſake of their timber or leaves.

Culture.

All theſe ſorts may be raiſed in amazing plenty from ſeeds; which is the method recommended when the view is only for the timber: But as numbers of bad ſorts will ſhew themſelves among the good ones, it is a method by no means to be practiſed for the Fruit Garden; and the different and true kinds are to be encreaſed by layers or cuttings, in the manner exhibited under this article among the trees proper for ornament and ſhade.

Having thus ſtationed them in the Nurſery according to theſe directions, they may be trained to any deſired height. If wanted for ſtandards, their ſtems ſhould be ſix feet high before the head is formed; if for half-ſtandards, lower; and if for dwarfs, they ſhould be headed to within one foot of the ground. In either of theſe forms they may be planted out, and will produce plenty of good fruit in almoſt any tolerable ſeaſon, without requiring any other trouble than taking out all dead and cankered branches, or where they are too cloſe, that a due admiſſion of the ſun and air may be granted, for the better ripening of the fruit.

Standard Mulberries are for the Orchard; but where a tree or two only are wanted, they may be planted in the Kitchen Garden, or ſome place that is kept free from cattle. The beſt way is to plant them in dwarfs, becauſe they are with better conveniency gathered, and are leſs liable to be blown down by the winds. In eſpaliers alſo Mulberries are raiſed; but the beſt fruit is always produced when raiſed againſt a wall: So that whoever is deſirous of having Mulberries in their true perfection and reliſh, ſhould plant them againſt a good aſpected wall, fifteen or ſixteen feet diſtant from each other. The pruning is, to direct one upright ſtem, and cauſe it to throw out horizontals at a foot and a half diſtance from each other, that there may be room for the bearing wood to exhibit its fruit fair and in perfection. Theſe horizontals muſt be extended in length, and their number encreaſed, according to the age of the tree; and as Mulberries are for the moſt part produced on ſhort ſpurs at the extremity of the preceding year's ſhoots, near the baſe of thoſe of that ſummer, a ſufficient number of theſe muſt be left entire to produce fruit on each of the horizontals; and as theſe decay, or get too long, freſh wood is to be formed by cutting the branches near the horizontals, where ſuch wood is wanted, according to the uſual methods of pruning: And young, healthy, lateral ſhoots ſhould alſo be trained horizontally, to ſupply the others, as they decay and die off. After all, this is a tedious way of raiſing Mulberries; for Mulberry-trees ſeldom bear well before they are old. The fruit then is the beſt, and in its true reliſh; and as they ripen very well in dwarfs or ſtandards in warm, well-ſheltered places (which is a method attended with little trouble), the training of more than three or four trees for variety, or to ſhew how much the fruit is improved againſt a wall, is hardly worth practiſing. The ſoil for Mulberry-trees deſigned for fruit, ſhould be a rich, dry, looſe earth; for though they will grow in almoſt any ſoil or ſituation, yet when the ſoil is very damp, clayey, ſtrong, and binding, the fruit is generally of inconſiderable quantity, and ſo ſmall and ill-ripened, as to be fit for few purpoſes but tarts. Ripe Mulberries are not only a ſweet, agreeable fruit, but have a very cooling quality, abate thirſt, and promote ſecretion. The ſyrup of this fruit is well known; and it may not be amiſs to obſerve, that the bark of the root, being a bitter aſtringent, is admirable for killing of worms in the human body.

Proper ſoil.

Valuable properties of the fruit, ſyrup, and bark.

CHAP. XIX.

MESPILUS GERMANICA, The MEDLAR.

Introductory remarks.

BY the accounts we read of Medlars in ancient authors, we ſhould be induced to believe, that they were poſſeſſed of more ſorts than what we are at preſent acquainted with. The Medlar, however, does not ſport in variety like the Apple and other fruit; but the difference of plants, in conſequence of being raiſed from the ſeed, chiefly reſpects the largeneſs of the leaves, and the ſize of the flowers and fruit. Whoever ſows the ſeeds will find the plants to vary a little this way, but the difference will be inconſiderable; neither is it worth while to attempt raiſing freſh ſorts of Medlars to cauſe variety of fruit, as has been recommended in the raiſing of Peaches, &c. from ſeed.

The ſorts of Medlars that are chiefly propagated for fruit are commonly called,

Species.

1. The Large Dutch Medlar.
2. The Italian Pear-fruited Medlar.
3. The Nottingham Medlar.

Large Dutch,

1. The Large Dutch Medlar is the moſt propagated of any of the ſorts, becauſe the tree is a good bearer, and the fruit is larger than any of the other ſorts; but it is of inferior flavour, and, for the moſt part, diſpoſſeſſed of the agreeable quickneſs or poignancy belonging to the other two.

Italian Pear-fruited;

2. The Italian Pear-fruited Medlaris in high eſteem with many; it is a ſmaller fruit than the former, ſhaped like a Pear, and the pulp is briſk, and well-reliſhed.

and Nottingham Medlar deſcribed.

3. The Nottingham Medlar is a roundiſh fruit, ſhaped like the Dutch Medlar, but ſmaller. Its delicious flavour, like the others, is only to be perceived when in a ſtate of decay; at which time the pulp is of an agreeable tartneſs, and preferred to any of the other ſorts by the generality of thoſe who are fond of theſe kinds of fruit.

Culture.

Medlars are generally raiſed by budding them upon the Quince, or White Thorn ſtocks; but in order to have the fruit in perfection, let ſome kernels from the beſt Melting Pears be ſown. The autumn after they come up, let them be ſet in the Nurſery in rows, at a foot diſtance from each other, leaving an interval between the rows of two feet. When they are the ſize of a gooſe-quill they will be fit for budding; and the operation is to be performed in the uſual way. If the ground is good, they will ſhoot four feet or more the ſummer after they have been budded; and the winter after they may be ſhortened, for dwarfs, ſtopped for half-ſtandards, or trained up for full ſtandards, as they ſhall be wanted.

In the ſame manner alſo may be raiſed the different ſorts of Services, and ſuch Haws as are pretended by many to be eatable and good fruit.

C H A P. XX.

JUGLANS REGIA, The WALNUT-TREE.

WALNUT-Trees have been already treated of as timber-trees, and alſo for ornamental plantations. The method of raiſing theſe trees to perfection is there ſhewn; and with reſpect to their ſituation in this apartment, nothing more is to be done than to make choice of the largeſt, the faireſt, the thinneſt-ſhelled, and the beſt-taſted kernels for the purpoſe. **Culture.** Theſe will not produce the ſame ſorts again, for they vary like other fruit from ſeeds; but from the beſt ſeeds the greater number of the beſt kinds may be expected in return. If the Walnuts can be planted ſo as not to be removed, the trees will grow to a larger ſize than ſuch as have their roots ſhortened, and have undergone the diſcipline of trimming in the Nurſery; and they will poſſeſs a larger ſhare of fruit: But as this is rarely to be done, the beſt way will be to raiſe them in the former way, as has been already directed; and when they are of a proper ſize to be ſet out, to ſtation them in rows round the Orchard, to guard the other fruit from the outrages of the winds in fields, parks, or in ſuch other places where they are wanted.

The ſkin of the Walnut is a powerful bitter aſtringent, and ſhould always be taken off the kernel before it is eaten. The kernel then becomes very pleaſant, and is of ſimilar quality to Almonds.

C H A P. XXI.

FAGUS CASTANEA, The CHESNUT-TREE.

THE Spaniſh Cheſnut is placed in the liſt of fruit by ſome who are curious in aſcertaining the different kinds. It ripens very well in ſome parts of England; but the fruit is always inferior to thoſe we receive from abroad; and as they may be purchaſed at a reaſonable rate, it is hardly worth while to raiſe this tree merely for the ſake of the Nuts: but being a tree of admirable beauty, and its timber excellent, it is deſerving a place in all profitable plantations.

It has been treated of among the foreſt-trees, where its culture is ſhown; and ſuch perſons as are poſſeſſed of a dry, warm ſoil, where the fruit is known to ripen well, may raiſe any ſufficient quantity of trees to ſhew their great variety of fruit. Theſe may be planted at a diſtance, to ſcreen the orchard from the violence of the winds, or be ſet ſingly in parks, or other places, where their annual produce will be of ſome value while the tree is ſtanding, and the timber inferior to very few ſorts, when felled at laſt for uſe.

C H A P. XXII.

CORYLUS, The NUT-TREE.

Introductory remarks. THE variety of Nuts found in our woods, differing in ſize, ſhape, or in ſome reſpect or other, is as great perhaps as any ſort of fruit cultivated in our gardens. Their taſte, however, varies but little, and ſome kinds of the beſt perfection are ſelected for the garden, and called Garden or Cultivated Nuts, under the names of,

Species.

1. Large-cluſtered Nut.
2. Red Wood Nut.
3. Cob Nut.
4. Long Nut.
5. Spaniſh Nut.
6. White Filberd.
7. Red Filberd.

Large-cluſtered. 1. Large-cluſtered Nut is a Wood Nut, but remarkably large and fine; and growing in large cluſters, has a fine appearance when the Nuts are ripe. It fills well, and the kernel is remarkably ſweet and good.

Red Wood-Nut, 2. Red Wood-Nut is a middle-ſized Nut, having a ſweet kernel, covered with a red ſkin like the Red Filberd: As ſuch it cauſes variety to the eater; but it is no better than the other ſorts in our woods.

Cob Nut,

3. Cob Nut is a very large Nut, well-known. The ſhell is remarkably hard and thick, and the kernel is of inferior reliſh, in my opinion, to moſt of the other ſorts.

LongNut,

4. Long Nut. I have had this Nut near two inches long. It is broad, rounded at the extremity, and narrow at the baſe. It ſeldom fills well; ſo is more valued for its ſize and figure, than any excellency found in the kernel.

Spaniſh Nut,

5. Spaniſh Nut is one of the beſt Nuts we have in England, and pretty much retains the difference from ſeeds; ſo that I would adviſe all who are for raiſing woods of theſe trees, to ſow the Spaniſh Nuts; as the trees are ſtronger ſhooters, will grow larger, and come into uſe ſooner than the common Wood Nut-trees; and the fruit alſo is proportionably of greater value.

and White and Red Filberds deſcribed.

6, 7. The White and the Red Filberds are remarkable for their thin ſhells and ſweet-taſted kernels. They differ from one another in that the ſkin of the one is white, and the other red. The trees alſo ſhew a manifeſt difference before the fruit is ripe; the leaves and young ſhoots of this ſort being of a light green, but thoſe of the Red ſort, of a dark, or reddiſh-green. The Red ſort is moſt generally coveted on account of the beauty of the kernel, which is of a fine red colour, though it has no other property to entitle it to excellence.

Culture.

All theſe ſorts are eaſily propagated by layers. This ſhould be performed on the young ſhoots in the autumn, and by the autumn following they will have ſtruck root, and be fit to remove. Their firſt ſtage is in the Nurſery, where they muſt be planted in rows, a foot aſunder, the rows being two feet diſtant from each other; and here they muſt be trained up to ſtandards, half-ſtandards, dwarfs, or for what they are wanted. When they are ſet out for good they require no trouble, except clearing off the ſuckers as often as they ariſe, and keeping the ſtems clear and free from ſide-ſhoots. This will not only cauſe an elegance of look, but the trees will bear better, and the fruit be better taſted.

Any of the ſorts may be propagated by grafting or budding on ſtocks of the Common Nut-tree; which is a method worth practiſing at firſt, when it happens that there is the conveniency of having the different ſorts to plant out for ſtocks. When a ſtock is obtained, no other way than layering is worth putting into practice, as they may be encreaſed ſo ſpeedily, and with ſo much eaſe, by that method.

PART II.

Of ORCHARDS.

Introductory obſervations.

BY Orchard, in a large ſenſe, is generally underſtood a conſervatory of the hardieſt fruit-trees with which Nature has enriched the various countries where they are ſtationed. In a more confined ſenſe, it is applied to the two ſorts of fruit-trees, the Cherry and the Apple; theſe two ſorts only ſeeming to be of conſequence enough, ſingly to conſtitute a plantation of fruit-trees called an Orchard: For though there may be Plum-trees, Pear-trees, &c. in the Orchard, I have never yet met with a plantation called an Orchard, compoſed wholly of Plum-trees or Pear-trees. And this in a great meaſure ſhews the ſuperior excellence of the two preceding ſorts of fruit; and which indeed is ſo true, that they are exceeded by no other. The Cherry, as a ſummer fruit, tho' propagated in ſuch amazing plenty, and of ſuch ſhort duration, is ſo univerſally admired, that the whole produce is taken, in a regular ſale, in a few weeks. The Apple, as a later ſummer, autumn, and winter-fruit, is alſo ſo univerſally admired, and of ſuch general uſe for the table and kitchen purpoſes, that it is the moſt valuable fruit we have in the world, and worth all the others put together.

Orchards of theſe two ſpecies of fruit have been already ſpoken of under their reſpective heads; ſo that the buſineſs of this Chapter ſhall be to treat of Orchards in general, compoſed of the various kinds of fruit-trees this Iſland is happy in poſſeſſing.

Beſt ſituation for an Orchard.

And firſt, let us conſider the ſituation. This ſhould be upon a level, if poſſible; for if elevated high, the fruit will be continually expoſed to every ruffian blaſt of winds, the boughs broken, and amazing devaſtation brought by the impetuous guſts of that element. If low, damps ariſe, and fogs and vapours ſurround the fruit in ſuch plenty, and are often of ſuch long continuance, that it becomes ill-taſted, and fit for little but baking, and to be employed in the various purpoſes of the kitchen.

By low ſituations, muſt only be underſtood, where the ground is ſtubborn, damp, and wet. If it be naturally dry, looſe, a fine loam, with a ſlight mixture of ſand, it cannot be too low; for a fertile meadow, whoſe ſoil is of that quality, is the beſt ſituation that can be wiſhed for an Orchard.

But notwithſtanding we point out the beſt ſituation for the Orchard, this can, for the moſt part, be very little regarded. Orchards are coveted to be as near as poſſible to the houſe; and if this is high or low, on a declivity or a plain, the Orchard muſt be ſuitably placed. And, indeed, for the encouragement of the owner, he need not fear of ſucceſs in ſome tolerable degree, let the ſituation be what it will, provided the ſoil be ſuitable; for we ſee them on the tops of the higheſt hills, declivities, plains and vales, all affording uſeful and valuable fruit to the happy poſſeſſor; ſo that the next thing to be conſidered, is the ſoil proper for an Orchard.

And

Proper ſoil for an Orchard.

And for this, any ground that will produce good grain, or will fatten cattle, is proper for an Orchard; tho' it muſt not be deep, ſtubborn, damp, and wet land; for there the trees will become moſſy, canker, and the inconſiderable quantity of fruit produced will be ill-reliſhed, and good for little: Neither muſt it be very ſhallow, ſandy, gravelly ſoil, kalely and rocky near the top; for there, though the trees may flouriſh for a few years, they generally die when the roots reach to the bottom of the mould. Both theſe defects, however, may be helped in ſome meaſure. The latter ſituaton is to be aſſiſted by bringing in earth, and raiſing the mould ſo high that the roots will be many years before they come to the bottom, planting the trees cloſer, and as ſoon as you perceive them to die at the top or ſide, and go off, to plant freſh trees between them; and theſe will come into a good bearing ſtate before the others are quite dead; for they are frequently many years from their firſt decaying to their final diſſolution, and will often produce much well-flavoured fruit every year, through their decaying ſtate. The former is to be helped by drains; and, indeed, this kind of ſoil is not ſo formidable as the other; becauſe, by laying a ſuitable number of ſtone drains, all of a proper depth, any redundant moiſture may be drawn off, and the ground made, in ſome meaſure, ſuitable for the purpoſe of an Orchard.

Of preparing the ground.

The next thing to be conſidered is the preparation of the ground. And for this there is but one good method; and that is, by trenching or double-digging it as low as the natural ſoil will permit. And tho' this may be thought expenſive, if the Orchard is to be large; yet it will abundantly make amends by the extraordinary progreſs, beauty, and fruitfulneſs, it will afford the trees ever after. The trees, from the beginning, will be exhilarated, as it were, by the delicious juices they will receive from the roots ſtriking ſo early into a ſuitable refreſhing turf, and well looſened, ſurrounding earth, all properly prepared and of a proper depth. They will ſoon repay you by their early tribute of fruit; they will encreaſe this in greater proportion every year more and more; they will be leſs liable to cankers, diſeaſes, and decays; will arrive ſooner at perfection; and all along preſent to the eye the greateſt beauty that the nature of ſuch trees is capable of aſſuming. Indeed, when the plantations are to be extremely large, to raiſe quantities of Apples, Pears, &c. for cyder, perry, and the like, good plowing may do: And if the trees are to be planted at a great diſtance from each other, and the land kept in tillage, I conſider ſuch to be fields, and more than Orchards. We are treating of Orchards ſuitable to a family, or where the different ſorts of fruit are raiſed for ſale: In order to make the beſt of theſe, the ground ſhould always be double-dug, and the trees planted at ſuitable diſtances; and then the ground ſhould be kept in Kitchen Garden culture, until ſuch time as the trees are grown ſtrong enough to defend themſelves againſt cattle; when it ſhould be laid down with graſs-ſeeds, and ever afterwards eat bare with ſheep and ſmall cattle.

Of the diſtribution of the trees.

The next thing to be conſidered is the diſtribution of the trees. Trees planted amphitheatrically have a moſt charming effect; which has induced many to recommend planting the Orchard in the like manner. But it muſt not be expected that this effect is to be ſo good in Orchard Plantations as in others, where a regular fall may be made from the higheſt Cedar down to the loweſt Shrub. The difference of the height of ſtandard fruit-trees is ſo very inconſiderable, that, plant them how you pleaſe, they will be able to aſſume very little of the amphitheatrical appearance, unleſs they are aſſiſted by the ground riſing regularly to the back part: The effect then would be charming. But it ſhould be, nevertheleſs, conſidered, that by ſuch an elevation no tree is left guarded; but every one of them, from the loweſt to the higheſt, is liable to ſuffer from the violence of the wind's ſetting in the front, which is always conſidered as a great enemy to the Orchard, and which ought to be guarded againſt as much as may be; ſo that when Orchards are planted for the ſake of profit, the amphitheatrical appearance ſhould be little regarded.

Others there be, who are for having them form a parabola, planting the talleſt in the middle, and diminiſhing gradually to the loweſt all round. But then, as was before obſerved, the difference of the height of ſtandard fruit-trees is ſo inconſiderable, that they would be unable to form that figure; the ſhape would be little more than convex, unleſs aſſiſted by riſing ground in the middle; and thus the plantation would be liable to the ſame objection as the former, and ſhould be little regarded accordingly.

Having ſhewn that theſe two favourite methods of planting are almoſt impracticable in theſe trees, the difference of height being ſo ſmall as to cauſe no conſiderable effect unleſs aſſiſted by ſuitable ſituations, and which would then be attended with many evils; let us conſider of the beſt way of diſpoſing our trees to make them anſwer to the beſt advantage. And for this, there is but one good way; and that is, to diſpoſe them in ſuch a manner, that one part may protect the other, and that they may be mutually ſerviceable in aſſiſting each other againſt the common enemy, the wind and ſtorms.

We may be ſuppoſed now to be treating of large extenſive Orchards deſigned for profit. And in order to make theſe anſwer the end as well as may be, let the ground be laid out in ſquares or quarters, in the manner of woods, and let theſe ſquares or quarters be filled with trees ſuitable to their nature, and that of the ſituation. If one ſide be expoſed to the violent blaſts of the wind more than another, let this conſiſt of the largeſt-growing Apple-trees and Pear-trees, planting the worſt and the hardieſt ſort of fruit on the outſide, with a row of Walnut-trees ſet pretty cloſe together on the extremity or outward verge. A quarter or range of fruit-trees, thus planted, will, in a great meaſure, protect the others from all inſults from that part, ſecure the fruit on the trees, and thereby enſure much profit to the owner, who otherwiſe might ſuſtain conſiderable loſs.

If the whole ground is nearly on a level, and no one part is liable to ſuffer more than another, then let a row of Walnut-trees be planted pretty cloſe together all round. The Walnut-tree is conſidered as an Orchard fruit-tree, and indeed is no very inconſiderable one as to profit, when it comes into a good bearing ſtate; for it bids defiance to our ſevereſt ſtorms, which can never diveſt it in any tolerable degree of its fruit, until it is full ripe; and then, though it may fall, it is no ways injured, and ſuch blaſts only ſerve to ſave the owner much trouble and expence in gathering. The Walnut-trees, therefore, ſhould be conſidered as the guardians of our Orchard; they ſhould be arranged cloſely all round, or at leaſt againſt the moſt expoſed parts, that they may protect it from the beginning, and have ſuitable thinning where they begin to crowd and incommode each other.

Having thus laid our outward guard, we muſt proceed now to plant the inner parts, or interior quarters. And for this, the earlieſt and loweſt kinds of ſummer-fruit ſhould be planted in the middle ſquare. This will be like an area to the whole; and the trees being under ſize, will afford air to the reſt, and ſerve them as a large ſquare or quadrangle does a great city; whilſt the other quarters will protect them on every ſide. I chuſe to plant the earlieſt and beſt ſummer fruit in this well-protected place, becauſe they are more liable to be blown down than the later fruits, and, when bruiſed, immediately decay and come to nothing. This is a ſerious conſideration to the Planter, to enſure the ſafety of his ſummer fruits as much as may be; not only becauſe they are of a ſhort duration at beſt, but more eſpecially if any ways bruiſed; and becauſe ſuch ſummer fruit generally ſells at a greater rate, and brings in much more profit to the planter, than the numerous tribes which ripen among the autumn, or winter kinds.

Hitherto we have made a ſquare by our largeſt trees, to give ſuitable air to the Orchard, as a quadrangle does to the houſes of a great city. Other aſſiſtance alſo muſt be granted, if the plantations are large; and this muſt be, by dividing the quarters with ſuitable intervals, which may be thirty, forty, fifty, or ſixty feet wide, according to the largeneſs of the quarters, and extent of the plantation. Theſe quarters may be ſtill made at a greater diſtance from each other, and no ground loſt; for there may be planted rows of Filberds or Spaniſh Nut-trees (both which are Orchard-fruit) forming a walk of any given breadth; and theſe will be not only very beautiful, but will grow and bear very well near the large trees, and conſequently, when thus ſtationed, are in their right places. Another walk may have a range of Quinces in the ſame manner, another of Medlars, another of Codlins, and the like, to make the intervals between the large-growing quarters wider, and admit ſuitable air to the plantation.

The diſtance all the trees ſhould be from each other, ought to be according to their nature and that of the ſoil, which is ſet forth under their reſpective articles; and when the Orchard is at its full growth, and by its amazing and ſucceſsful thriving has joined the branches, or entangled thoſe of one tree with another; — when this proves to be the caſe, which will very ſeldom or never happen, at furtheſt not more than in part only, a proper thinning ſhould be made, by taking out here and there a tree of the worſt fruit, or cutting off here and there a large arm, or ſtill ſmaller branches, to afford ſuitable air to the remaining parts.

An Orchard of the nature of that we have been treating of, ſhould conſiſt of any ſort of hardy fruit, except Cherries; for theſe I would always adviſe to be planted in Orchards by themſelves, not only for the conveniency of gathering the fruit, but alſo for protecting it from the birds; for there muſt be always ſuitable perſons with clappers and guns to frighten thoſe ſongſters, which would otherwiſe have a conſiderable ſhare of the crop, and would infallibly have all the beſt of it, as experience teſtifies from ſingle trees planted here and there promiſcuouſly with others in the Plantation.

Neither ſhould this Orchard poſſeſs only the ſorts of hardy fruit-trees; every ſort of the different kinds of fruit-trees ſhould be found there. Here the numerous train of Apples; here the extenſive catalogue of ſuitable Pears; here the vaſt variety of Plums, with the various kinds of every uſeful fruit yet known, whether the trees be good or ill bearers, ſhould be kept up, for the reputation of the Orchard; and the worſt bearers, tho' leſs profitable, planted if the ſorts are good, that no one may be diſappointed of the ſort they may be inclined to reliſh.

And an Orchard thus formed, how delightful, as well as uſeful and profitable, will it be at all times! In the ſpring, what can be more enchanting than the lively and moſt charming appearance the trees make, when covered all over with their ſnowy bloom, but differing in themſelves in the different ſorts! In ſummer, how pleaſing to ſee the embryo fruit advancing to perfection! and in the autumn, how raviſhing to find the different kinds arrive at maturity, and delighting different palates with different delicious flavours! Apples grown in the Orchard are ſuperior in goodneſs to thoſe raiſed any other way. Thoſe growing on eſpaliers are larger, and fairer to the eye, but they are of inferior reliſh; neither is there any one good reaſon for planting an eſpalier of Apple-trees, otherwiſe than that, by being produced low, they are leſs liable to ſuffer from the violence of the winds. And tho' other kinds may be improved in eſpaliers, or againſt walls; ſuch as Plums, Pears, &c. yet of theſe there are many valuable kinds which ſucceed excellently well in the Orchard; and, conſidering the little trouble Orchard-trees take in training and managing, and the extraordinary quantity of fruit they will produce, when the trees get to any tolerable ſize; as it is the moſt generally practiſed, ſo it is the moſt eligible and natural way of raiſing fruit-trees, and worth all the others put together.

Culture of Orchard-trees.

The culture requiſite for Orchard-trees is, to clear off all ſuckers from the roots as often as they are produced, cutting off all the dead wood from the tops, decaying branches, and ſuch as croſs, crowd, or any ways incommode each other; that by keeping the tops open and free, the fruit may have all the advantages of the ſun, air, and refreſhing dews, which will cauſe it to be the beſt-taſted, as well as larger, and more beautiful to behold.

Every twelve years the ground ſhould be broke up or trenched afreſh, and employed as a Kitchen Garden for three years; during which time it ſhould be well ſtored with manure, and the produce will be immenſe: After that it ſhould be laid down with graſs-ſeed, and grazed with cattle as before.

This alterative will have great influence on the trees; the rich turf and fattened part of the upper ſurface of the ſoil being grazed for ſo many years, and turned downwards, will become delicious food for the roots of the trees, will cauſe them to aſſume a more lively air than ever, and is the beſt method to afford a greater proſpect of carrying our trees in the moſt proſperous condition from their firſt planting to the utmoſt period Nature deſigned them to laſt.

PART III.

Of the GATHERING and PRESERVING of FRUIT.

THE preſerving of fruit belongs only to the autumn and winter kinds, for theſe are only capable of it; but the gathering of it belongs to all the ſorts, whether ſummer or winter, little or big: And on the proper obſervance of the gathering of fruit, the time of the day when it ſhould be performed, the criſis of the operation, and the manner of effecting it properly, not only depends the goodneſs and true flavour of the fruit, but the aſſurance of a future crop, and the health and ſafety of the trees; which are very often injured by the over-forcing of boughs, and the ſtripping off the fruit by handfuls, as is too often practiſed by the thoughtleſs and injudicious, when called upon to aſſiſt in gathering the fruit of the different ſeaſons for uſe.

Three things to be obſerved in gathering fruit.

The three things, then, neceſſary to be obſerved in this performance are,

1. The time of the day when the fruit is to be gathered.
2. The criſis of the operation.
3. The manner of performing it properly.

1. The time of the day when fruit is to be gathered.

1. The time of the day when the fruit is to be gathered. The anſwer for this is ſhort: Early in the morning for all ſummer-fruit; for they loſe their briſkneſs if the work is deferred until they have been warmed by the ſun: And not ſo early in the morning for all autumn and winter fruit, which ought not to be gathered before all dews, miſts, and vapours are diſperſed, and the fruit, tree and leaves are perfectly dry. This ſeldom happens before nine or ten of the clock; and the work may be continued until ſun-ſet in the evening. Theſe precautions indicate, that the weather is to be dry; and for want of ſuch weather, the work ſhould be deferred, though the fruit be fully ripe, and a loſs be ſuſtained by ſome of the faireſt falling to the ground.

2. The criſis of the operation.

2. The criſis of the operation. This is to be when the fruit is ripe; except for Summer Pears, which ſhould be gathered ſomewhat earlier, as they would otherwiſe be eat and much damaged by waſps and inſects; and winter fruit, which ripens in the Fruitery, in ſucceſſion, many months after they have been taken from the trees. But as all the fruit on the ſame tree, nay on the ſame bunch, will not be ripe together, the performance muſt be continued ſome time; and as it is to be made only on ripe fruit as they preſent themſelves in ſucceſſion, let us conſider the true ſigns of ripeneſs in the different ſorts of fruit. And for this,

True ſigns of ripeneſs in Strawberries,

Strawberries ſhew themſelves to be ripe when their colour is deep, their fragrance heightened, and they readily quit their places.

Raſpberries,

Raſpberries indicate their ripeneſs by the ſame tokens; and

Gooſeberries, and

Gooſeberries, by their ſkin becoming thin, and their fleſh ſoft and pulpy.

Flemiſh or Kentiſh,

Flemiſh, or Kentiſh Cherries are ripe when they are of a dark-red, or purpliſh colour:

White Heart, &c. Cherries.

White Hearts, when they become red, or beautifully mottled on the ſunny ſide. And this way of varying in colour is the token of true ripeneſs in all the ſorts of Cherries; that is, when thoſe called Red Cherries, are almoſt black, or purpliſh; the Whites, when they become red, or more or leſs ſtained with lively ſtripes of that colour; the Blacks, when they are gloſſy, and truly ſo; and the Purple Hearts, Bleeding Hearts, &c. when they are deepeſt, and moſt livid.

Plums,

Plums are full ripe, when they are plump and full, finely powdered with a lively bloom, and readily quit their ſtalks.

Peaches & Nectarines

Peaches and Nectarines, when they fall from the tree, are juſt then ripe, and in the greateſt perfection for eating.

Grapes,

Grapes are known to be ripe by their tranſparency.

Figs,

Figs are of different colours, and ripen firſt at the extremity; and when this is carried on to the footſtalk, and the whole Fig becomes of one colour, it is then in fine eating.

Apricots,

Apricots are of ſuch a nature, that one ſide is often rotten before the other is ripe; ſo that the gathering of theſe muſt be ſuited to the taſte of the owner; that is, if he likes them ſomewhat acid and briſk, let them be gathered as ſoon as one ſide is ripe; if ſoft and mealy, let them ſtand longer in proportion to his taſte. But there are few of this reliſh; a ſoft, mealy Apricot is generally diſliked; and the moſt univerſally practiſed law for gathering them is, when they open at the end, and ſhew good ſigns of ripeneſs on one ſide; one part then corrects the other, and the different compoſition of the ſame fruit blended together in the eating, makes it become to moſt palates very agreeable.

Nuts,

Nuts are known to be ripe from the fine brown colour they aſſume, the elegant powder at their baſe, and their ſpontaneouſly quitting their huſks:

Walnuts & Almonds,

Walnuts and Almonds, when their covers divide, and they fall away: and

Medlars,

Medlars, when they appear quite rotten.

Summer Apples &

Summer Apples require eating when they begin to fall from the tree, aſſume their lively colour, and emit an agreeable odour: And Autumn and Winter Apples may be known by theſe rules, though in leſs degrees.

Pears.

Summer Pears are known to be ripe by their falling from the tree, and the fine yellow or lively colours of their ſkins, and ſoftneſs of their fleſh: And Autumn and Winter Pears may be known by the like tokens, though in ſmaller dregees.

Theſe being the ſigns of ripeneſs of the different ſorts of fruit, which direct us to the time of gathering them, proceed we now,

3. The manner of performing it properly.

Thirdly, to ſhew the manner of performing it properly.

Rules for gathering Strawberries,

And firſt, Stawberries are readily gathered, by ſelecting the ripeſt ſingly, and handling them ſo gently that they may be no ways bruiſed. They muſt be put, as they are collected,

lected, into ſmall baſkets provided for the purpoſe, and ſet in a cool, airy place till they are wanted.

Raſpberries, Raſpberries are readily gathered in the like manner; but the greateſt caution ſhould be uſed not to injure the riſing ſhoots of the ſummer; for theſe are to produce the fruit the ſucceeding ſummer; and in proportion as theſe are injured, your future crop will accordingly fall ſhort.

Cherries, Cherries ſhould be gathered with more caution than is generally practiſed. They ſhould be nipt off, or diſlodged with the finger and thumb, ſo that the contiguous buds be no ways injured; for theſe are to afford fruit the ſucceeding year; and if they are torn away, as they too frequently are, by the thoughtleſs or injudicious pulling off handfuls of theſe fruit at one time, the ſucceeding crop muſt be proportionally ſmaller. This precaution extending to all Cherries in general, with reſpect to thoſe of the Orchard, ſee that the gatherers remove their ladders often enough, that the tree may no way ſuffer by the violence offered the branches by over-bending: Thus the trees are injured, and many buds for a future crop taken off; ſo that the beſt way will be to hire gatherers by the day, and not by the great, who will not care what miſchief they do, nor how the fruit is collected, provided they can get the beſt wages.

Plums, Ripe Plums readily quit their ſtalks; ſo that the greateſt difficulty will be, not to diminiſh the fine bloom with which Nature has adorned them, but preſerve it as much as may be until they arrive at the table. This indicates that they muſt be handled as little as poſſible, and ſo few gathered in one baſket, that the bottom only ſhould be covered. Plums from the Standards may be ſhaken down, if they are wanted immediately; for the ripeſt will be obedient to a gentle ſhake; but the contuſion will bring on a diſagreeable reliſh if they are not eaten immediately.

Peaches & Nectarines Peaches and Nectarines are gathered by a ſlight twiſt: If they are unwilling to quit their places, let them remain a day or two longer; if they are obedient to your motion, they are in perfection, and would ſoon fall off ſpontaneouſly.

Apricots, Apricots may be gathered any-how, and at ſuch degrees of ripeneſs as beſt ſuits your own taſte.

Nuts, Nuts may be pulled without much danger of injuring the ſucceeding crop, unleſs the branches are broken: To prevent which, ladders ſhould be uſed, and not Nut-hooks, for gathering of Nuts.

Walnuts, Walnuts may be beat down.

Apples, and Pears. Apples and Pears are taken from the trees with a gentle twiſt; and when they are not obedient to your motion, it is a certain ſign they are not quite ripe. This muſt be underſtood of Summer and Autumnal Fruits; for the Winter kinds will be nothing near ripe when gathered, and will often ſtand a good pull before they quit their hold: And as the Summer Pears are directed to be gathered a few days before they are ripe, the ſtalks of all ſuch muſt be either nipped off in the middle, or they muſt with the finger and thumb be carefully thruſt back and diſlodged from their places, otherwiſe ſome fruit-buds for the ſucceeding year will probably have been torn off with them.

Having thus treated of the manner of gathering, proceed we now to the preſerving of fruit. And this reſpects very few ſorts. Some are of ſuch ſhort duration, that they can by no art be preſerved good longer than a day; and no very inconſiderable ſhare of the Summer-fruit preſerve their goodneſs not longer than two or three days. As, for inſtance,

The various kinds of fruit which are good for no long duration.

Strawberries, Raſpberries, Gooſeberries, Currants, and Cherries—how inſipid are all theſe excellent fruit, if left uneaten but one day after being gathered in their mature ſtate!

Plums are more bearable the ſecond day, but their goodneſs is diminiſhed; and by the third day they will for the moſt part rot, and be ſpoiled.

Peaches and Nectarines may be kept two or three days; but they are never ſo fine as when they are firſt taken, or fall off, ripe from the trees.

Apricots may be kept longer than any of theſe, if a perſon likes them mealy and ſweet; but there are few people of ſuch a reliſh; and they are generally reckoned in perfection, when the end opens, and one ſide of the fruit is fully ripe.

Moſt of the Summer Pears and Apples are good for no longer duration than three or four days after they have paſſed their ſtate of maturity. The Pears rot at the core, and become mealy; and tho' Apples are not ſo liable to this evil, yet the time of their being in good eating is very ſhort.

Seeing, then, theſe valuable kinds, which are by far the greateſt ſhare of our fruit, are ſo ſpeedily conſigned to corruption after they have preſented themſeves to us in their pleaſing reliſhes in their moſt perfect and mature ſtate, it behoves us moſt narrowly to watch the ſeaſons, and ſeize every opportunity of regaling ourſelves with theſe bounties of Nature at ſuch times as ſhe preſents them perfect for our enjoyment. Theſe are all Summer-fruit, cooling and refreſhing, cheering and exhilarating, and peculiarly adapted to make glad the heart of man in the warmeſt ſeaſons. Of theſe all-bounteous Nature has been very laviſh, for their profuſion is great; but they are by no art made to be kept good long; ſo that in the article of preſerving of fruit, we muſt look for other ſorts on which to try our ſkill, that theſe bounties of Nature may be wanting at no ſeaſon of the year.

The ſorts of fruit that may be preſerved.

And theſe are varieties of two diſtinct ſpecies only of the before-mentioned kinds of fruit, called Apples and Pears.

It has been obſerved, that the numerous kinds of Apples, differing ſo much in themſelves, conſtitute only one ſpecies; and the great train of Pairs, in the amazing variations, are but other ſpecies of the ſame genus. It has been alſo obſerved, that theſe fruit are claſſed or arranged in their order, the Summer, the Autumnal, and the Winter. The firſt we have given up, for we don't pretend to keep Summer Apples and Pears; but the ſecond kind ripens in ſucceſſion, and by being properly treated, may be kept good all autumn, and the greateſt part of winter; and the laſt claſs of fruit with ſuitable treatment may be made to become ſerviceable until the return of the year, when Nature preſents us with her numerous train of Summer ſhort-lived products afreſh.

The manner of gathering them, and the time for the operation, have been already ſet forth; ſo that we will proceed to their management when brought into the Fruitery, and direct their after-management from that period until they are brought to the table or kitchen for uſe.

Rules for gathering fruit that may be preſerved:

We muſt ſuppoſe that they are gathering in a fine day, and are now bringing dry into the room appointed for the purpoſe. Keep the ſorts diſtinct, and lay them in heaps, in order the better to bring on the perſpiration; cover each heap cloſe down with warm woollen cloths; in a little time they will begin to exude moiſture, which is called ſweating; and this ſweating ſhould by all means be encouraged, as thereby the redundant, inſipid, watery juices, which tend only to accelerate corruption, are thrown off, and the perfect corrected juices, which are the fruit's true reliſh, left behind. When they have paſſed a good fermentation and eaſy ſweating, the moiſture ſhould be wiped clean off with a flannel or woollen cloth. When they are properly dry, they ſhould be ſhifted into a fine dry, warm, but airy room; and if it be full upon the ſouth, the ſun ſhining in at the window, it will be ſo much the better. After having lain here a few days, a ſhare of them ſhould be removed to their apartment in the Fruitery, laying them ſingly, in ſingle layers and not in heaps, to come in firſt for uſe; whilſt another ſhare ſhould be put in large jars, and plugged and reſined down cloſe to exclude the external air; and theſe will ſucceed the others, and keep until the ſeaſon of freſh fruit returns.

Their management in the Fruitery, and after-treatment, &c.

Thoſe in the jars cannot be ſo readily examined; but ſuch as are in the Fruitery ſhould be conſtantly watched, to ſee if they continue ſound. Pears generally decay firſt at the core, and Apples on the outſide; ſo that, as ſoon as the leaſt ſpeck appears, they ſhould be immediately removed; for the putrefaction will ſoon ſpread, and the peſtilential particles which ſuch fruit emit, will be imbibed by the adjacent and other fruit. Thus, without timely precaution, the peſtilence will become general, and the greateſt part, perhaps, of the fineſt fruit fall a prey to putrefaction.

It is neceſſary for the perſon who has the care of the fruit to know, as near as may be, the preciſe time of every ſort of fruit's ripening. Thus he will never be at a loſs to know what aſſortments to go to, to ſend proper fruit thro' the different ſeaſons to the table. This is retarded or accelerated by the fineneſs of the ſeaſon when growing, and the warm and ſuitable place of their repoſitory in the winter. It muſt therefore vary ſome weeks in ſome years more than others, and the good judgment and experience of the Fruit-keeper muſt direct him to act accordingly.

There is a certain time when all fruit is in full perfection for eating; and take it before or after that time, the flavour will be proportionably diminiſhed from the diſtance to that time, let it appear ever ſo good and fair to the eye. A Pea or a Bean are in their utmoſt perfection the moment they have acquired their full growth, and no longer; and from that period their value gradually diminiſhes, though they are brought to the table for ſome weeks. Even ſo a Pear, or any fruit, after it has acquired its juſt degree of ripeneſs, loſes its briſkneſs, the fine flavour diminiſhes gradually in proportion to the diſtance from that time, and the fruit becomes of little value, though it appear ever ſo good and fair to the eye: And this is what makes the knowledge of theſe things ſo neceſſary to one who has the care of the fruit, and ſends them to the table.

A label muſt conſtantly attend the different ſorts; for this, to many, will give an additional agreeable reliſh, when they know what they are eating; to all it will be pleaſing, and be the means of cauſing the different ſorts to be more generally known.

Proper time for gathering fruit.

We call all ſorts of good eating fruit Table-fruit, not only to diſtinguiſh it from ſuch as is fit only for Kitchen uſe, but becauſe it is generally ſerved in the deſſert on the table after dinner. Though cuſtom has made this univerſally practiſed, it is a wrong time of the day for eating of fruit, which ſhould be between meals, or rather in the morning before dinner, about eleven or twelve o'clock. For then, as the ingenious Doctor Tiſſot obſerves, " They neither diſturb the digeſtion of other aliments, nor become difficult " of digeſtion themſelves, nor produce ſourneſs " in the ſtomach; but acting in a mild, gentle, " ſtimulating, ſaponaceous quality, reſolve concretions, accelerate the courſe of the bile, ſtimulate the ſluggiſh inteſtines, remove obſtinate coſtiveneſs, and conſequently prevent " and remove many and grievous diſorders incident to the human frame."

FINIS.

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Valeriana						865	315			757
Valliſneria						867				
Varronia									677	
Vella						867	316			
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Verbena						870	317		678	
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E N G L I S H I N D E X.

EXPLANATION of the ARRANGEMENT of the Columns: Under *D*, are placed Deciduous Foreſt Trees; under *E*, Evergreen Foreſt Trees; under *D W*, Deciduous Wilderneſs Trees; under *E W*, Evergreen Wilderneſs Trees; under *C*, Climbers; under *P*, Perennials; under *A*, Annuals; under *G*, Green-Houſe Plants; under *S*, Stove Plants; and under *K*, the Produce of the Kitchen Garden.

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——, triple-thorned			126						583	
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Acalypha							3			
Achillea						317				
Achyranthes									499	
Acinodendron									615	
Aconite						320				
———, Winter						559				
Acroſtichum						323				
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Adder's Tongue						672				
Adhatoda									603	
Adonis						327			501	
Ægilops							5			
Ægyptian *Kali*							213			
——— Melilot							311			
——— Privet									608	
——— Sour Gourd									500	
Æthiopian Boxthorn								373		
——— *Carduus*							157			
——— *Cytiſus*								393		
——— *Elichryſum*, baſtard								482		
——— Hartwort, ſhrubby				207				367		
African Almond								359		
——— *Aſparagus*, climbing						637		436		
——— *Arum*								367		
——— Bay								442		
——— Berberry								373		
——— Bladder-nut								467		
——— Box								443		
——— Broom								347		
——— Colt's Foot								364		
——— *Cyſticapnos*, climbing							144			
——— Fleabane								398		
——— ——— ſhrubby,								489		
——— Fly Honey-ſuckle								415		
——— Gorſe								487		
——— Groundſel-tree								3[illegible]4		
——— Marigold							299			
——— Mallow								436		
——— *Periploca*								455		
——— Scabious								471		
——— *Solidago*, ſhrubby								378		
——— *Spiræa*								395		
——— Sumach								466		
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Alexanders						817	291			
Alexandrian Laurel				242						
Alkanet, baſtard							197			
Alkekengi						710	245	457	639	
All Good						439				
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All-ſeed							79 195			
All-ſpice			98						623	
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———, African								359		
Aloe						342		335	503	
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——, Mock								340		
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Althæa Frutex			128							
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———, Globe							155		584 600	
———, Spiked									499	
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Amelanchier			146							
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——— *Dactylon*							118			
——— *Dianthera*						486				
——— Gooſeberry									528	
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——— Honeyſuckle						401		334	502	
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——— *Viburnum*							188	428	606	
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Anthora						321		341		
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Aphaca							190			
Aphyllanthes						367				818
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——, Cuſtard			91						508	
——, Blad										
——, Fig			161							
——, Love							291	479		752
——, May						722				
——, Paradiſe			161							
——, Pine									525	759
——, Star									543	
——, Thorn							119		567	
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Apple-Roſe			173							
Apricot			157							797
Arabian Jeſſamine									625	
Arbor Vitæ		52		245						
Arbutus				203		372				
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—— Ruſh						785				
Bonarota						688				
Bonduc			127						586	
Borage						404 869	46			711
———— leaved Mullein										
Borbonia								357		
Borecole										715
Box-leaved Holly				217						
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———— African								443		
Boxthorn					264			435		
———, Æthiopian								373		
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Bramble			179		269	759				
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———, Spotted Cretan							49			
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———, Ægyptian							33			
———, Cowſlips						745				
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———, Viper's						501	131	398		
———, —— Yellow							223			
———, Wild						629	33 204			
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Burdock							29			
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——— Perfoliate Fox-Glove						650				
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——— *Queria*						747				
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——— *Phillyræa*								372		
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——— Tree									533	
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—— Campion							285			
—— Feverfew							207			
—— Flag						544		408		
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—— Marigold						441	82	376		
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———, Poetic						660				
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Daiſy						403 441	41			
——, Blue						546		409		
——, Prickly								376		
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——— leaved Gilliflower						370				
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——, Red						623				
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——— Nightſhade						359	39	354		
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———, Low hoary						458				
Dittany						491		448		
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—— Mercury						649				
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—— Violet						876				
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——, Spaniſh Meadow						409				
Sage						768	267	469		748
——, Jeruſalem			230			707				
——, Wood						837				
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——, Marſh						579				
Sallow			180							
Salſafy						306				756
Saltwort						764	265			
——, Black						545				
Samphire						469	109			
——, Golden						586				
——, Marſh							265			
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——, Sheep's						583				
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—— Figwort									658	
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—— Colewort						467	91			725
—— Daffodil						691			627	
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—— Heath						528	143			
—— Holly						514			575	
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The Publication of this Work in Weekly Numbers requiring it to be printed in great Haſte, and the Author by living at a great Diſtance from the Preſs, not having the Opportunity of ſeeing all the Proof-Sheets, many Errors may have eſcaped; which it is hoped the intelligent Reader will remark with Candour, and correct.